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ABSTRACT

The following papers were presented at the Adult Education Research Conference in Saskatchewan: (1) Three Channel Theory of Communication in Small Groups; (2) Communicating with Low Income People: CSCS Research; (3) Focus on the Future: Futurology for Correctional Education; (4) Using Experimental Design in Educational Research in a Volunteer, Informal Adult Education Program; (5) A Study of Central Personality and Skill Characteristics of the Expanded Food and Nutrition Educational Program Aides and Homemakers; (6) Testing Knowledge about Adult Education; (7) Implications of Learning Models for Adult Instruction: A Comparative Analysis; (8) A New Dimension in Program Development Theory; (9) Motivational Factors of Adult Learners in a Directed Self-Study Bachelor's Degree Program; (10) A Methodology for the Development of an Ideal Hierarchical Position-Centric Role Model; (11) An Analysis of the Need and Form for Comprehensive Adult Education Associations; (12) Cognitive Structure and Concept Formation; (13) An Evaluation of the Expanded Food and Nutrition Education Program in Missouri; (14) The Relationship between Group Process Training and Group Problem Solving; (15) Measuring Role Acquisition by Teacher Aides in Head Start Centers; (16) Institutional Change and The Ghost of the Past; (17) Analysis of University Service in Adult Education; (18) Role Theory used in West Pakistan; (19) Supervisory Effectiveness; (20) Theory and Research; (21) Heuristic Models of Organization Development. (CK)

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THREE CHANNEL THEORY OF
COMMUNICATION IN SMALL GROUPS

ABSTRACT

Forty experimental dyads were composed for study designed to test a transactional theory which views interpersonal behavior as being communicated simultaneously on three channels. The dyads ranged from compatibility to incompatibility through all possible combinations on the three channels. The dyads were identified from a battery of instruments administered to 200 subjects. The general hypothesis was that there would be a linear relationship between intra-group compatibility and a set of five dependent variables. Each of the 40 dyads were scheduled for a half-hour discussion period in which the members worked together to solve a case study problem. Following the discussion session each member was given a set of post meeting instruments to complete. Results on three of the linear relationships were in the predicted direction.

THREE CHANNEL THEORY OF COMMUNICATION IN SMALL GROUPS*

Robert D. Boyd
Professor
University of Wisconsin

John P. Wilson
Lecturer
University of Wisconsin

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Background and Theory

There is sufficient empirical evidence to conceptualize the communication networks of small face-to-face groups as being composed of three simultaneously operating channels. The three channels have been identified as the *motivation*, *delivery* and *information* channels. Basic concerns are expressed through the *motivation* channel. The manner in which an utterance is delivered in a group is here referred to as the *delivery* channel. The cognitive system of an individual in a group setting is here identified as the *information* channel. The problem which was investigated may be more readily understood through a discussion of previous research which served to more clearly delineate the scope of the study.

There are many variables and combinations of variables which have been identified and investigated in the study of small groups. Some researchers have focused their attention on the input variables. These studies are concerned generally with personality, basic needs, or psychodynamics of group members. Many of these studies have been able to demonstrate that such variables may be accountable for sizeable proportions of the variance of group behavior (Hare, 1962). Other studies have investigated the inter-personal communication styles of group members. These studies have been able to show evidence that part of the variance can be consistently explained by the pattern of the communication styles (Schein and Bennis, 1965). There are studies which have examined the exchange of information and the communication channels as variables in the life of small groups. Such studies have also found meaningful and statistically significant results (Bales, et al., 1958). Finally, there is a growing body of knowledge about relationships between outcomes and the transactions of groups (Collins and Guetzkow, 1964).

It is not difficult to realize that a paradigm which could encompass the three phases, input, operation and outcome, should prove to be a very powerful instrument in the study of small groups.

The first question that may be raised is: Do individuals act during the interaction session of a group in the manner indicated by a pre-meeting measure? Hare (1962) concluded after a review of the literature that, "although it is evident that the variety of behavior which has been predicted from paper-and-pencil or projective tests generally support the hypothesis of an underlying consistency in behavior, the evidence is not all positive."[1]

The conflicting evidence which Hare reports on the consistency between pre-meeting and interaction measures may be due in large part to the use of one system of personality attributes upon which to predict behavior and another system of interaction categories to test the consistency hypothesis. This explanation may explain why Borgotta and Eschenbach, (1955) found no significant relation between Rorschach scores and behaviors scored by Bales' categories. In previous research, Fouriezos, Huth, and Guetzkow (1950) were able to demonstrate significance between Rorschach scores and such behavior categories as dependency, dominance, aggression, etc. Thelen and associates (1958) studied group-relevant aspects of personality and found a high correlation between a pre-session measure (RGST instrument) and behavior during group meetings (observation data). Both sets of data were based on the same category system.

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[1]

Although the statistical results were supportive of the consistency hypothesis the obvious variance continued to raise questions. Breer (1960) found that preinteraction measures of the subject and the other person with whom the subject was to interact was superior to a measure based on attributes of the subject alone. The extensive work carried out by Schutz (1955, 1958) provided much support to this further refinement of the consistency hypothesis. The consistency hypothesis was upheld by the work of other researchers (Haythorne et. al., 1956a, 1956b).

The significance of the work of these investigators went beyond their contribution to the consistency hypothesis. It is clearly evident from their work that the consistency hypothesis and the interaction hypothesis (one can only describe a group as it interacts) are incorrectly viewed as conflictual. In the study and description of small groups they are complementary.

Our knowledge of groups has long since led us to know that personality is only one major component of a study of small groups. From the classic experiment of Lewin, Lippit and Whyte (1960) the students of small groups have been very much concerned with leadership styles and subsequently interaction styles of group members (Fox, 1957; Ziller, 1957; Hare, 1953). Ben-Zeev (1955) was one investigator who most clearly differentiated personality and interaction style are dynamically related but do not come in predestined counterparts.

The work of Stogdill (1959), Leavitt (1951), Guetzkow (1960), among others, has been directed towards the consideration of the information exchange among members. The significance of such research findinggs have found direct application in the variety of settings from business to family counseling.

In very brief terms the above material identified three time phases: input, operation and outcome. Three components concerned in all three time phases are identified as being basic components in the life of any small group. These are personality of members, interaction styles members employ, and the information members bring and exchange.

The importance of any one of these components cannot be questioned in the face of our accumulated knowledge. The stage of our progress should be at the investigation of the interrelationships among these components. To this end Boyd (1964, 1966) proposed the following paradigm. The investigators employed this paradigm.

The study was conducted within a defined conceptual framework. In brief terms it may be conceptualizaed as a transactional model. A group can be viewed as an input, operation, and output system. A group at the same time can be viewed as having three channels in its communication system. Specifically, these are the motivations (psychological needs an individual brings to a group); delivery (the manner in which individuals relate to others); and information (the knowledge individuals have at their disposal).

Hypotheses

It was reasoned that the motivation channel would have the greatest weight in small group transaction. This was based on the argument that basic concerns (socio-psychological tensions) must be handled first before an individual can clearly perceive and deal with either the delivery or the information channel. It was further argued that were the motivation channel free of disturbance the delivery channel would be next in importance. Delivery styles disrupt a communication system more readily then does information even if the information were also repulsive to the listener. Another way to view this is if the information were acceptable to the listener the noise of a perceived negative delivery style would seriously disrupt the information messages from being heard. Thus our argument proposed a hierarchy of the three channels.

To operationalize this conjecture it was proposed that a procedure which would establish degrees of compatibility be employed. Accordingly, it was proposed that the higher the compatibility in any one channel a decreasing amount of noise would be observable in the transactions. For example, were two memebers of a group highly compatible on the motivation channel they would be more able to direct their attention to the other two channels. Further, if they were also compatible on the delivery channel they could then direct their full attention to the information channel. In this manner it would be argued that persons compatible on the motivation and delivery channels woulf transact more on the information channel than would individuals who were not compatible on these channels. This statement represents in gross terms the conjecture that was proposed and tested.

Since a large number of variable compose the transactions of a small face-to-face group a design was proposed to restrict the significance of those factors which did not directly bear on the problem at hand. Accordingly an experimental design was developed composing dyad groups having various degrees of compatibility on the three independent variables, namely, the motivation, delivery and information channels. Thus it was possible to compose dyads with all three channels highly compatible progressively to dyads where all three channels were highly incompatible.

To avoid a lengthy description of the composition of these groups they are described symbolically in quasi-mathematical formulations in Table 1. All groups are dyads. Let x stand for one member and y represent the second member. The symbols M, D, and I stand for the motivation, delivery and information channels respectively. The notation $\equiv$ means that there exists a high measure of compatibility between the two members, while the notation $\not\equiv$ should be interpreted to mean a low measure of compatibility.

TABLE 1 GOES ABOUT HERE

The two variables of sex and age were controlled in the composition of all dyads. Thus a group was either two males or two females. All groups were composed of members who did not differ more than five years in age.

The hypotheses were:[1]

1. There will be a positive linear relationship between compatibility and congruency on the ideal member and actual member profiles.

2.a. If M, D and I channel are compatible members will describe their group session in more positive work terms than all other dyad types.

2.b. If I channel is the only incompatible channel members will describe their group session in equally weighted terms on all three channels.

2.c. If M and I channels are compatible but D channel is not members will describe their group session more in terms of the D channel than all other dyad types.

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[1] Two other hypotheses were proposed but the exploratory nature of the methodology raised many issues. In view of these this aspect of the experiment was omitted.

2.d. If D and I channels are compatible but M channel is not members will describe their group session more in terms of the M channel than all other dyad types.

2.e. Group members incompatible on two or more channels will describe their group session more in terms of the M channel than any other channel.

3. The dyad types will be ordered from 1 through 8 on the analysis of the information test such that the groups will be differentiated significantly on:

   a. statements indicating joint development of decisions

   b. statements made by himself during the meetings

   c. statements made by other member during the meetings

Design

The design of this project is divided in three phases, namely the pre-experiment phase, the experimental phase and the post experiment phase.

Pre-experiment Phase: Two hundred and forty-eight undergraduate university students volunteered to complete a set of four (4) questionnaires. These were the Self-description and Alter-description questionnaires (M channel) and the Expressed and Interpersonal Relations questionniares (D channel). The results of these questionniares enabled the investigators to identify the various levels of compatibility among individuals in this base population.[1] Having identified the levels of compatibility for each pair of individuals, forty (40) pairs were selected to participate in the next phase of the experiment. These dyads consisted of 8 differing types of compatibility on the three channels (M, D and I), with five (5) representative dyads of each type.

Experimental Phase: Arrangements were made for each of the dyads to meet for one and one-half hours. There were three (3) parts in this session. In the first part there were two tasks. The first task was to complete a thirty-two (32) item Semantic Differential. The individuals were asked to do this in reference to the person they would most like to work with in a small work group. The second task was to listen to tape-recording of a case study. (The dyads identified as incompatible in the I channel listened to different and conflicting versions of the case study.) Each member listened independently via head-sets.

After the case study was presented, the individuals were taken to a small group discussion room. Their task for this second part was explained to them verbally and the problem they were to work on was

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[1] Compatibility here means the extent to which individuals mutually satisfy each others' needs. There are three components namely, reciprocal, similarity and conflictual. The following formulas were applied to the two sets of questionnaires.

$$R_{ij} = (w_i - e_j) + (w_j - e_i)$$

$$C_{ij} = (e_i - w_i) + (e_j - w_j)$$

$$S_{ij} = (e_i - e_j) + (w_i - w_j)$$

To find a total compatibility score, the results are summed together ($R_{ij} + C_{ij} + S_{ij}$). The term w means subject with whom one would like to work while the term e means the type of person he sees himself to be.

presented on a typewritten card.[1] The discussion was 1/2 hour in length. They were audio and video tape recorded. Following the discussion each individual was taken to a separate room for the final phase of the experiment.

Post-experiment Phase: There were three (3) tasks in this final phase. In the first task individuals were asked (in writing) to identify the ideas that developed during the disucssion, who originated these ideas, and how the ideas were received. The second task was a second Semantic Differential. This instrument was identical to that in the Pre-experiment Phase except the concept was changed to "the person I worked with". The third task was to distribute a sixty-four (64) card Q sort according to whether the statements on the cards described their group or not. That is, a forced distribution on a continuum from 'least like my group' to 'most like my group'. Each card is 'loaded' to represent one of the three (M, D, I) channels more than the other two.

Reliability of Coders

Three judges were trained to code the post-meeting reports. It was determined that judges must reach or surpass a .70 on the Guetzkow Correctness of Categorizing (1950) before leaving the training materials. To insure they maintained at least this level during the coding of the data each was assigned a randomly selected set of 20 dyads with 4 of each set of 20 being common. The reliability among coders was maintained throughout the coding of all data.

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[1] They were asked to assume the role of administrative committee members of the church described in the case study. Their task was to reach a decision on the problem described in the case study. The problem in the case study centered around conflicting philosophies of an older, conservative minister and a young, progressive minded minister.

Findings

It could be posited from the theory that those members who were most compatible would demonstrate a high association between their ideal conception of a member and the person with whom they were paired. As the compatibility between sets of members decreased so also would the association between a measure of an ideal group member and the paired member. The means and rank order on the types of dyads are reported in Table 2. A Kendall Tau statistic was computed on the rankings.

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TABLE 2 GOES ABOUT HERE

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The ranking revealed a Tau equal to .25. Although the result does not support the conjecture in a strict statistical interpretation it is clearly and sufficiently indicative to argue against the rejection of the theory. The results indicate that members who are higher on measures of compatibility will show a closer association between their ideal member perception and the member with whom they are compatible. While dyad types 1 and 2 were ranked highest as was predicted there remains the question why did members in dyad types 7 and 8 rank each other more favorably than dyad types 3, 5 and 6? At this time the only answer that can be given is that the results warrant further study.

It was conjectured that differeing groupings of compatibilities would affect what the dyad members reported in describing their dyad session in terms of the three channels. Five subsidary hypotheses were proposed to test this conjecture.

The hypotheses were tested by means of a 64 card Q sort. Individuals were requested to distribute the cards in a forced normal distribution along a continuum from least to most descriptive. There were six cards in each of the two stacks at the ends of the distribution. The total of 12 cards provided the raw data for the analyses.

Three results corroborate the theory. It was predicted that dyads with high compatibility on all three channels would describe their sessions more in terms of the positive I channel than any other types of dyads. It was predicted that dyads with low compatibility on the D channel only would describe their group more in terms of the D channel than any of the other types of dyads. The means for this dyad type were lowest for M and I channel which further supports the hypothesis. Dyads which were considered incompatible on the M channel only were predicted to describe their group more in the M channel than in the other channels. This was found to be the case, however, all other groups were higher on the M channel. These results will be reviewed in the discussion section.

The second subsidiary hypothesis asserted that the members of dyads which were incompatible on the I channel only would describe their sessions on all three channels in relatively equal terms. Members of this type of dyad described their session much more in terms of the M channel than the I channel.

Finally groups considered incompatible on two or more channels were predicted to describe their group sessions in terms of the M channel. The results were as predicted. It is to be pointed out, however, that all dyad types described themselves more in terms of the M channel than any other channel. An interpretation of this result is presented in the discussion section.

The third hypothesis was in fact three subsidiary hypotheses. All three hypotheses posited the condition that the dyad types were described by a measure providing a continuum of high to low compatibility. The data that served as the dependent variable were the post-meeting reports written independently by all members. It was conjectured that there would be a positive association between the measure of compatibility and

1. statements reporting jointly developed contributions.
2. the absence of statements reporting references to his own contributions as separate entities.
3. the absence of statements reporting references to alter's contributions as separate entities.

The rank order of the 8 dyad types were determined and the Kendall Tau was employed to test for the level of statistical significance. The Kendall Tau statistic for the three sets of rankings were .43, .04 and .44 respectively. The results for two of the subsidiary hypotheses (1 and 3) indicate support for these conjectures and in turn for the theory. Specifically, groups higher in measures of compatibility perceive more mutually developed contributions than those having lower compatibility. This result is consistent with the theory. Incompatibility produces more noise in a social system. As the noise in the social system increases the possibility of perceiving mutually developed contributions decreases. Two of the tests corroborate this argument. The results for hypotheses 2 were in the predicted direction but at a level for below that which would give us much confidence in the prediction of an association

One of the major points posited by the theory is that the I channel plays a less significant role in the transactions of a group than do the other two channels. There was one result which appears to provide substantial evidence in support of the theory. Twenty of the 40 dyads were given conflicting case study materials. The reader will recall that one member of dyad types 2, 5, 6 and 8 listened to case study A while the other member listened to case study B. Yet in not one of these 20 dyads did the members openly identify or even question whether both members heard the same case study.

Discussion

The transactional theory proposed by Boyd should be viewed in the context of what Popper (1963) calls power of a theory. Popper's idea may be stated in simple terms in the following manner. As "we operate with theories of increasing content, it must also mean we operate with theories of decreasing probability."[1] The arument for this position is that our aim is the growth of knowledge and not the design of experiments which yield high probability. The over- concern for obtaining high probability leads logically to theories of decreasing content. It is argued here that this should not be our aim. The aim of science is a high informative content.

Taking this position does not in any sense imply that conjectures formulated within a theory are safe from empirical testing. The scientific quality of any theory is directly correlated with the falsifiability of its conjectures.

The theory which Boyd has set forth is a theory of increasing content. The theory should be viewed as an attempt at the integration of much solid work by serious scholars. This reported investigation is seen as an initial sortie in the testing of the theory. To view it otherwise would distort the study out of perspective and may run the risk of ignoring substantial contributions made by other researchers.

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[1] Karl Popper, Conjectures and Refutations: The Growth of Scientific Knowledge. p. 218.

In summary there was a trend for dyad types to be ordered from more compatible to less compatible on a congruency measure between what type of co-worker each member wanted and the actual member he worked with. It was not a totally consistent trend. Perhaps the most critical insight into the results was the proposal that the time of the transactions between the members was too brief to develop significant involvement in order to get a more powerful reading. The rank order results were fairly consistent when compared with the order predicted (Tau = .25). Although the results cannot be seen as impressively supportive, they must be viewed in terms of the scope of events the theory denies. The increased content of theory increases the opportunities of falsifying it. From this perspective the results clearly justify the holding of the theory for further testing.

The second test of the theory examined the conjecture that various types of compatibility would effect the transactions of the dyads in specific ways. Five subsidary hypotheses were proposed and tested. Three sets of results corroborated the theory, while two sets of results presented conflicting evidence. In dyads where compatibility is high on all three channels the members perceive their sessions dealing with the work dimension. The theory would propose that dyads having low compatibility only on the D channel would describe their session more in this dimension than any other dimension. This aspect of the theory was corroborated. Similarily dyads having low compatibility on the M channel only would describe their session more in this dimension. This was found to be the case. There were additional findings which bear on the theory. It was posited that the M channel is of fundamental concern and would accordingly receive most attention. In dyads where M, MI or DI were low in compatibility, the members described their dyads more in the M dimension than in any dimension. These findings are clearly corroborative of the theory.

It was predicted that the members of dyads incompatible only on the I channel would describe their sessions in terms of all three channels relatively equally. They describe their session much more in terms of the M channel than either of the other two channels. It was reasonsed that when there exists a high level of compatibility on M and D channels dyads are freer to concentrate on the I channel. This appeared to be consistent with the theory. One explanation may be that members spend much time initially in determining the relationships in the M and D channels and leave the resolution of the I channel last. Longer time periods for the dyads would test this interpretation. It should be pointed out that this set of dyads (I incompatible only) gave more negative descriptions of their I channel than all other types of dyads. This may be interpreted to mean they saw their incompatibility in this channel more clearly than all other dyads.

It was predicted that dyad types low on two or more compatibility measures would describe their sessions in terms of the M channel. The results corroborate this hypothesis, however, all dyads members described their dyads more in terms of the M channel than any other channel. This finding weakens the test of the hypothesis. Although the specific hypothesis remains to be tested more rigorously the results do point to the central position the M channel plays in the type of group which was studied.

The final test of the theory posited a positive association between measures of compatibility and a post-meeting report. It was reasoned that the higher the compatibility the more the dyad members would describe contributions as being jointly developed. That is to say, such members would play down credit for individual members. Three sub-tests which examined this conjecture from different perspectives gave results in the direction predicted. Two results indicate fairly strong support for the general conjecture (Kendall Tau = .43 and .44).

The theory proposed that the higher the compatibility among the three channels the higher would be the cohesiveness in the group. Cohesiveness in turn provides a climate in which mutuality can be developed and appreciation of other members' contributions is fostered. The results appear to support this line of reasoning and the three channel transactional theory provide an explanation for the condition of cohesiveness in small groups.

One of the most startling findings was that not in any one of the 20 dyads whose members had heard distinctly different versions of the case study did the members identify or even question whether both members heard the same case study. In view of the fact that the members were together for a half hour discussion and that the two versions had striking conflictual material it is reasonable to hold to the argument, at least tentatively, the members of dyad types 2, 5, 6 and 8 must have been giving more of their attention to other communication problems than those in the I channel. Since dyad types 5, 6 and 8 were non-compatible on one or more of the other channels it could be argued that the noise from the other non-compatible channel prevents these dyads from recognizing the existence of the two versions of the case study. This interpretation does not hold for dyad type 2 because the other channels were classified as compatible. Again we must return to the explanation that channels M and D present such central and immediate problems even for compatible dyads that until the compatibility is perceived by the members they are not free to move to problems on the I channel. This reasoning is consistent with the theory but our results then force upon us a serious criticism of the design of the experiment. One-half hour discussion period may be insufficient to provide time for members to work through perceptions of each other's life-style as given in the configurations of the M and D channels.

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TABLE 1
HIERARCHICAL ARRANGEMENT OF THE TYPES OF DYADS FORMED BY SYSTEMATICALLY PATTERNING THE COMPATIBILITY OF THE MOTIVATION, DELIVERY AND INFORMATION CHANNELS

1. $M \equiv M$
$D \equiv D$
$I \equiv I$

2. $M \equiv M$
$D \equiv D$
$I \neq I$

3. $M \equiv M$
$D \neq D$
$I \equiv I$

4. $M \neq M$
$D \equiv D$
$I \equiv I$

5. $M \equiv M$
$D \neq D$
$I \neq I$

6. $M \neq M$
$D \equiv D$
$I \neq I$

7. $M \neq M$
$D \neq D$
$I \equiv I$

8. $M \neq M$
$D \neq D$
$I \neq I$

TABLE 2

MEAN AND RANK ORDER ON THE IDEAL AND PAIRED MEMBER MEASURES FOR THE 8 TYPES OF DYADS

DYAD TYPES	MEAN SCORES	RANK ORDER
1	.803	2
2	.806	1
3	.676	7.5
4	.756	4
5	.689	6
6	.676	7.5
7	.799	3
8	.731	5

COMMUNICATING WITH LOW INCOME PEOPLE: CSCS RESEARCH

Royal D. Colle

Cornell University

Prepared for the Adult Education Research Conference, Montreal, April 1973. Research reported in this paper was supported by Federal Hatch Funds and the New York State College of Agriculture and LIfe Sciences.

Our university and Canada have at least two important things in common. First, hockey is a major craze of both. (In fact Cornell's hockey team itself is very Canadian.) And we also share a major concern in exploring ways of communicating with hard-to-reach people.

Only last November, Canada forged a new link with people in the Canadian North with the launching of the nation's first communication satellite. It was appropriately named ANIK, the Eskimo word for "brother." Shortly before that time, the Minister of Communications, the Honourable Robert Stanbury told a Royal Society of Canada Special Symposium on "Communications in the Home" that in a visit to the remote areas of the Yukon and Northwest Territories, he found

> ... along with an appealing zest for northern life, a deeply felt sense of deprivation and separation from the Canadian mainstream. There is in this isolation a lack of contact with others in neighboring communities only a few miles removed in physical terms but separated by a wide chasm in terms of ability to communicate by any means except the "moccasin telegraph."[1]

ANIK constituted another important effort to bring the people of the North into closer contact with the rest of Canada.

Our efforts at Cornell to communicate with hard-to-reach people involve technology less dramatic than the ANIK satellite. The heart of our program is a very modest $1 cassette tape and a $25 cassette playback unit. Yet, we have hopes that our research on this Cassette Special Communication System (CSCS) will give some clues as to how simple communication technology can provide communities, whether isolated by geography or by culture, the opportunity to share in some of the benefits of mainstream society.

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[1] Robert Stanbury, P.C., M.P. Opening Address, Communications in the Home, Proceedings of the Special Symposium, Royal Society of Canada, Ottawa, March 1972.

Background of CSCS

CSCS grew out of a concern for developing a cooperative research program among land grant universities in the Northeastern United States that would focus on problems of low income people. This became known as Northeast Project 67 - Paths Out of Poverty. One of the several Cornell components dealt specifically with problems of communication.[2] The Cassette Special Communication System was designed to try to bring to low income people information in appropriate "packaging" that would help them use their own and their communities' resources to improve their lives.

When we initiated CSCS studies at Cornell, we planned a significant role for indigenous paraprofessional "advisors" in the development and implementation of the projects. Though not trained in research methods, they have made valuable contributions in designing and evaluating the research projects. We'll turn to that in a moment.

The basic CSCS plan

We must emphasize in talking about CSCS that it is a system. It involves audio cassette technology, but equally important, it involves a plan for developing the software and strategies for dissemination.

An important emphasis in CSCS is putting greater control over the communication process into the hands of those who are the so-called "targets" of information programs. In fact, one of the more exciting developments on the frontiers of communication is not so much the technology per se, but the increasing opportunity it provides for greater independence from those creating and sending messages. We see this in the increasing use of study carrels in schools, in the development of television videocassette and video disc systems which will eventually release television viewers from the arbitrary scheduling of programs by networks and stations; and in the creative use of audio cassettes for speeches, lectures, and other oral presentations.

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[2] In addition to the research discussed in this paper, other communication-related studies are reported in Ivette Puerta and Robert L. Bruce, Data Collection with Low Income Respondents, a paper presented at the Adult Education Research Conference, Chicago, 1972; and Njoku E. Awa, Some Factors Related to Communication and Social Participation in Low Income, Low Density Populations, unpublished Ph.D. dissertation, Cornell University, 1973.

Obviously tape recording equipment is not new. It's been around for about 25 years. But cassette equipment, which began to appear on the market in the mid sixties as a moderately expensive instrument, was by the early seventies saturating the consumer marketplace. Therein lies a major reason why cassette technology has been so important in developing CSCS. In CSCS, cassette tape units are placed in the households of the special audience and pre-recorded tapes are provided for them. Audio cassette machines are simple to operate and relatively inexpensive to buy. Playing a tape is an elementary task; there is no threading or handling of the tape itself. In one test in Pakistan, a researcher discovered that the skill of operating the machine can be taught even to an illiterate, ~~to a~~ who is moderately intelligent person in five to eight minutes.[3]

It was this simplicity and low cost of the cassette system that permitted us to shift some control of the communication process to the receiving community. A little later we'll see what this means to the listening context. Although we have not experimented with it yet, it is also possible to provide a system of feedback if the machines have both record and playback capability (which most units on the market do).

The collaboration of indigenous advisors

In the four counties where we've been working with CSCS, the Cornell team has never had direct contact with those low income people who were to receive the units and the tapes. We sought representatives from the low income community to assist in all phases of the project. Use of indigenous people in community education and information projects is certainly not new. One report notes that the 1920's "witnessed a very great expansion in the use of local leaders, with which there had already been limited but successful experience, particularly with the demonstration work among women." One group of these local leaders was made up of "persons who were recognized as representatives of a community or township to receive from the specialist or home demonstration agent training in subject matter and in methods of presentation, which in turn they would pass on to their own groups."[4]

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[3] S. Mahmud Roshen, Tape Playback Machine Project, paper prepared for the RCD Seminar on Family Planning, Islamabad, October 1969, p. 5.

Use of indigenous paraprofessionals is a distinguishing mark of social intervention programs of the 1960's and 1970's. Part of the impetus in the United States came from political decisions to encourage employment of low income people in Federally funded anti-poverty programs. A simultaneous drive came from the realization by social action people that a gulf existed between the "establishment" types and the client group, and that one way of bridging that gap was to use some of the target group members themselves as communication links. Thus, we see in various communities "nutrition aides," "community aides," "health aides," etc.

In using the indigenous person as an advisor, CSCS puts emphasis on having that person help develop content and plan strategy, rather than serving primarily to relay material designed by people outside the community. In this way, the community is actually making an input (through the advisors) at the intial stage of the communication process. This is another way of giving the community a greater measure of control over the communication process.

Beginning of the advisors' role: creating content

In starting a CSCS project, we usually begin by meeting with a group of advisors in an informal setting. We explain the system to them and play some sample tapes. Then we discuss what they think people like them in the community need to know to make their lives better. In three of the five counties where we've been working, our advisors have been nutrition aides so they have had a good chance to circulate in the community. Once warmed up, they easily generate a list of topics that is ample for the project.

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[4] Edmund deS. Brunner and E. Hsin Pao Yang, Rural America and the Extension Service, Teachers College, Columbia University, 1949, pp.79-80.

The advisors also help with the question of what manner of presentation will be used on the tapes: interview, drama, straight talk, conversation, etc. In one project, the advisors came up with a "soap opera" format and "created" the hypothetical family members and the typical problems each of them would have. What was happening (we think) in this kind of a work session was that the advisors were creating plot ideas out of their own experiences and those of their clients in the community.

Our task is then to research the topics. This involves checking with health agencies, law libraries, public officials, community groups, university specialists, etc., for accurate information on the topics selected. We then try to put the information into the proper form for the target audience.

Language is an important consideration in the development of content. It's not only what language to use (we've been working in English and Puerto Rican Spanish) but what words in the language. Do we use "supper" or "dinner" to refer to the evening meal? Do we use the word "poor" to describe low income people? Do we use the phrase "disadvantaged children"? Often it's the advisors who catch improperly used words.

The importance of having an indigenous person advise on wording is illustrated by an incident in a Philippine barrio where Rural Reconstruction Movement (RRM) people were trying to push a literacy program. Obviously they had to identify the illiterates. As Juan Flavier reports the story, the literacy movement was proceeding very slowly in the barrios despite the fact that Filipino farmers attached great importance to education. For them, it was the only way out of their poverty. So, why the great difficulty in the literacy drive?

A clue came when Flavier and the RRM workers stumbled onto the full meaning of the Tagalog word for illiterate. It's "mangmang." In English the word illiterate means "the inability to read and write." Mangmang means this and more: it also implies stupidity.

"In other words," says Dr. Flavier, "when we asked who were the illiterates or mangmang in the barrios, we were in effect asking who were the 'stupids'."[5]

Content characteristics

We found that CSCS offered some distinct advantages in developing content. For example, the system lends itself to quite limited areas of circulation. This means that content can be localized. We were able to use specific names of county agencies, names of local people, and references to other well-known features of the local culture and environment. We have a hunch that this approach is more meaningful than providing messages that have no local flavor.[6]

We also use "homophily" approaches with which the listeners can easily identify, but also inserted elements of "heterophily" to provide what Rogers calls competence credibility.[7]

Because of the opportunity for people to listen to the tapes in their own households (or wherever they pleased), it is possible to use quite intimate and personal material such as family planning and venereal disease information. Often this kind of information is too sensitive for broadcasting on a radio or television station.

A key effort is made to make the content interesting and entertaining. One technique is to include music appropriate to the area in which the tapes are to be used.

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[5] Juan M. Flavier, Doctor to the Barrios, New Day Publishers, Quezon City (Philippines), 1970, p. 171.

[6] We aren't alone in this view. An unpublished proposal by Population Services, Inc., puts it this way: "Testimonials by local village people would support the claims of the field workers and legitimate their activities regarding a subject which is often regarded with suspicion and skepticism. Even if the message can be carried to large audiences, the problem of relevance remains. A mass message prepared for one audience in a developing country often carries little weight with an audience in another locale. Thus the impact of a promotional campaign may be seriously eroded by the inability of large sections of the society to identify with its purposes. For the majority of people, credibility begins at the village boundary."

[7] Rogers discusses the concepts of homophily and heterophily in Everett M. Rogers and F. Floyd Shoemaker, Communication of Innovations, The Free Press, New York, 1971.

And CSCS allows flexibility. Whatever time it takes to get a message across, two minutes or five, there are relatively few constraints in CSCS.

A typical tape contains about 20 minutes of recorded material on each side.[8] This usually includes three or four "episodes" which have the important information in them, with selections of music between episodes. A typical episode has a teaser announcement of about one line ("Do you know where you can get low cost medical service in Yates County?") followed by a dramatization or interview or monologue, always done by people who sound like the listener (homophily). Then there is a summary delivered by a person with a strong, clear, resonant voice. This latter element provides both the restatement of the facts from the preceding section, and the ring of authority (an heterophily element).

In our effort to make the tapes interesting and entertaining, we put a considerable amount of music in them. Again it was the advisors who guided us in the selection of music. And well they do, as I'll relate in a moment.

A distribution strategy

Finally, over a period of several sessions with our advisors, we design a system for getting tapes and cassette units to the community. We're not sure yet what kind of pattern works best where. In our first study we used what we call the Yates pattern. In this, each advisor is responsible for placing the cassette unit in a low income home. He may have 15 or 20 machines for placement. Tapes are sent periodically by the advisor to each home. At the end of the test period, the advisor recovers the unit and the tapes.

A variation called Ontario, follows the same scheme but includes small follow-up group meetings involving those who have been listening to the tapes. This is similar to the radio rural forum idea that started more than 20 years ago here in Canada and was adopted by India and other developing nations.

Essex is the name of a distribution pattern in which the advisor starts a unit off with one household, and instructs a person in that

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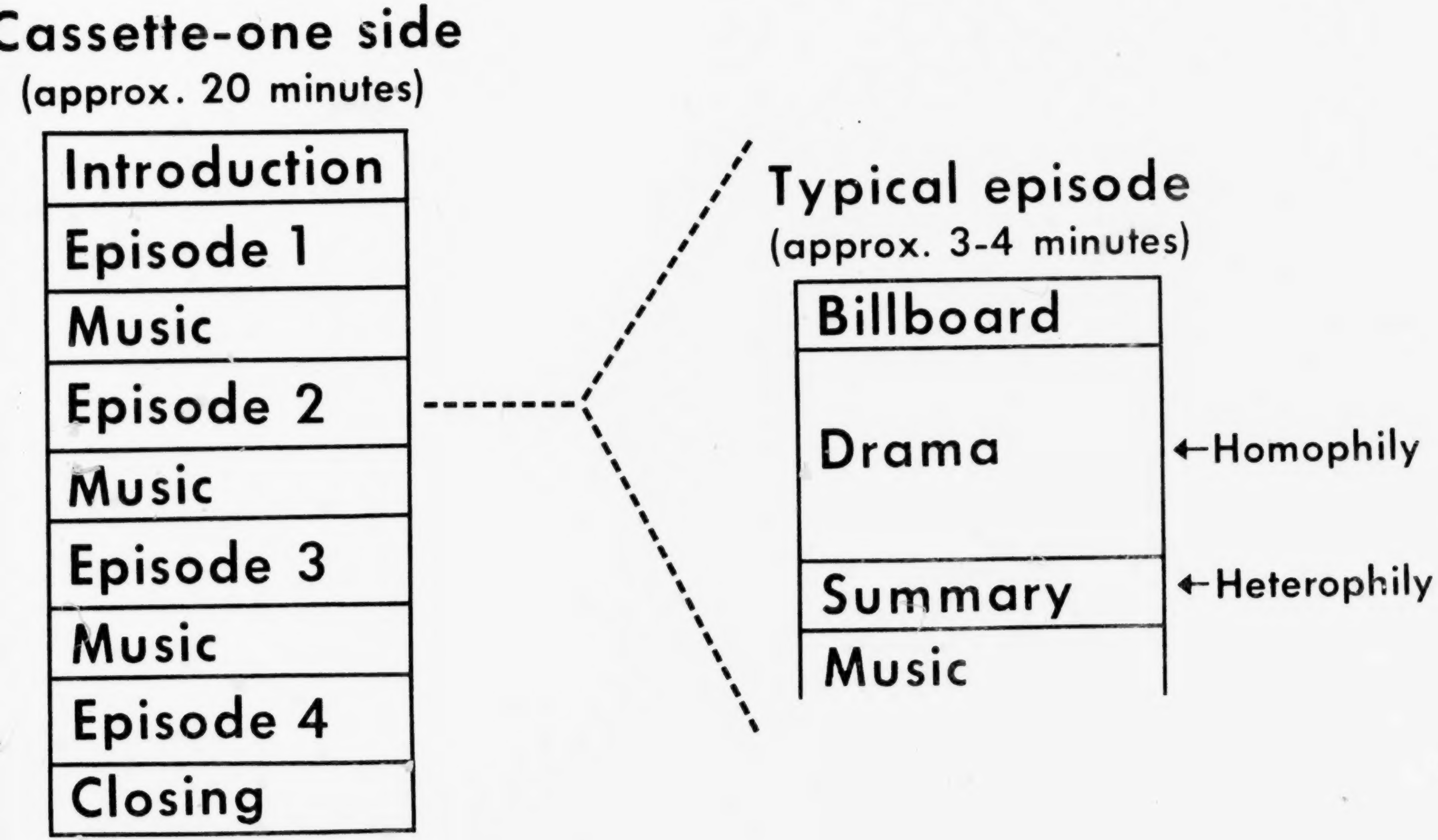
[8] See the accompanying diagram.

STRUCTURE OF A TAPE



Cassette-one side
(approx. 20 minutes)

- Introduction
- Episode 1
- Music
- Episode 2
- Music
- Episode 3
- Music
- Episode 4
- Closing

Typical episode
(approx. 3-4 minutes)

- Billboard
- Drama ←Homophily
- Summary ←Heterophily
- Music

household to pass it on to another household after they are finished with it. Let me pause for a moment to indicate how helpful advisors are in the development of the project strategy. The initial reaction to the Essex plan was: "Oh boy, you'll never see those machines again. They'll go right out of the county." But on reflection, the advisors who first discussed this system framed three hypotheses about Essex. (Remember these are low income aides with, at most, a high school education.)

1. Loss of equipment would be small because the people handling the equipment and passing it on to others would feel responsible for the equipment. They would be likely to pick households that were also dependable and responsible.
2. As the units and tapes were passed from household to household, they would begin to enter households of higher socio-economic people. In short, the system would circulate up the socio-economic ladder.
3. When a person passes a unit and tapes to another household, they are passing more than equipment. They are also passing on an implicit testimonial about the value of what was on the tapes.

When we heard these kinds of ideas coming from our advisors, we wondered why some of our college students weren't as alert.

One other distribution pattern is Brooklyn. It is even more like the radio forum idea. It involves having the advisor play the tapes for people gathered together in a small group. But to preserve the idea of giving the receiver independent control over the receiving process, each member of the group is given the chance to borrow a unit and tapes to take home for repeat and additional listening.

After we have a chance to find out more about each of these patterns and how they work, it will be easier to match up a system with characteristics of the community. For example, the Brooklyn might be best for a densely populated area such as an urban housing complex, while Essex might be more suitable for a remote rural area such as a village in Nepal.

Pretesting

The advisors play an extremely important role in pretesting the tapes. They take them to their own homes, and to neighbors and friends in the community. They collect comments and suggestions which they feed back to us. We then make whatever modifications are necessary in the tapes. In one case we thought we had guessed correctly on the kind of music to use in the tapes. It was country and western, and the first night we played it for the advisors, they reported (as they tapped their toes to the beat) that this was excellent music for the project. After they had been in the community pretesting the materials, they told us to change the music. The sentimentality of the C&W music seemed inappropriate for the low income homes in the community, many of which had broken families. Thus, we shifted to "bluegrass music" which has an upbeat tempo.

CSCS into the home

With the tapes polished, the advisors are given the materials to get the project into the field for testing. Depending on the type of evaluation design we have devised, they may also take materials for interviewing householders with whom the units will be left. Throughout the field operations it is the advisor who supplies tapes and makes contact with the people in the project.

Once the cassette materials are in the household, note how the person receiving can control the consumption pattern. This includes the time of exposure: i.e., listening can take place during a bath, at breakfast, while other tasks are being done such as ironing, washing, cooking, or chopping wood, or during fishing. And it can be done in the light or in the dark. It is also possible to listen a second or third time to the content. Thus the listener can control the frequency of exposure to the message. (This often happened in the study where we already have some data in.) Also important is the fact that the system is literacy free. Although, technically, literacy is no problem in the areas we've worked so far, we know that there is a disinclination among low income people to read "social intervention" literature. So far we've discovered that they do listen to what we've packaged.

The evaluation

No ideal time duration has been determined yet for having a CSCS project in the field. The distribution model and the number of tapes will have an influence on how long a particular cycle is in the field. We left the playback units in households for eight weeks in our Yates trial, which was conducted in a rural area. If this were an already proven communication system being used by a local agency, we would expect that once the advisors brought in equipment from one eight-week (or other length) cycle, they would then circulate it to other households. Eventually the first households might get the machines back again, with a new batch of tapes. But we're still rather far from recommending CSCS as the system to use in a community's social action program. We still have much evaluation to do and some questions to answer.

In our most recent field test, we used the Brooklyn model in a crash program in a South Brooklyn housing complex. The Brooklyn model is the pattern best suited for rapid diffusion, and we used it primarily because our community advisors urged us to put material on the tape dealing with an imminent local school board election. Our goal was to reach 1,100 household units in a housing complex within a week's time, using Spanish and English language material. We are about to engage several low income indigenous interviewers to conduct an evaluation, and frankly are a bit apprehensive about what we will find in terms of information gain and behavioral change. We had not anticipated the need to work on such a rushed basis and had not really considered CSCS as a medium for this type of communication. One hazard with field studies is the problem of control and the unexpected. Yet, from informal feedback we have discovered interest in the community in extending the system to a community health project in which CSCS will be used in conjunction with home visits of health aides. If nothing else comes out of this study, we will discover something about the problems of equipment and material losses in a low income urban setting where theft and robbery are commonplace.

In the Yates project we were able to plan and organize an evaluation using the advisors as data gatherers. Although we used a short answer questionnaire as the principal evaluation tool, there was no writing involved in the interviews conducted with the target group by the advisors. The advisors used the questionnaire as an interview schedule and recorded the questions and answers. Later, in their own homes, the advisors listened to the interviews and filled out the questionnaires. Incidentally, this is giving us a chance to spot check and compare the answers given on the tape and those tabulated on paper by the advisor. The recording also gave us assurance that evaluation interviews were actually conducted.

Our responsibility was to take the evaluation data and feed the insights it revealed into our next projects. We also made it a point to share our findings with those who were key elements in the whole research operation -- the indigenous advisors.

Questions about CSCS and advisors

We have discussed elsewhere some of the many questions which our field trials of CSCS have raised.[9] Here we deal with those that relate particularly to the advisors.

One of the things we wonder about a great deal is how CSCS might change the role of a paraprofessional worker who has one specialty (e.g., agriculture or family planning) when the worker is equipped with CSCS bearing information on other subjects (e.g., nutrition).

What effect does taking part in the development of tapes and their distribution have on the advisors' actual and perceived level of competence? (One nutrition aide who has been working on tapes with us told how she was advising someone about legal rights in welfare. We asked her how she learned about that type of thing. She said she learned it from the cassette tapes we were putting together.)

Related to these questions is the reaction of the paraprofessionals' clients: are they willing to accept and trust information brought to them about a subject they know is outside the competence of the paraprofessional?

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[9] Royal D. Colle, An Experimental System for Communicating With Hard-to-Reach People, paper prepared for the Second Participants Workshop on Population and Family Planning Communication, East-West Communication Institute, Honolulu, January 1973.

Are there any particular characteristics or special training that a CSCS-toting community worker should have?

Conclusion

One of the early reactions we got from a group discussing the pros and cons of a CSCS project was the problem of threatening field workers with technological obsolescence. We see CSCS as a partner with the field worker in his/her information, education and communication efforts. We discovered one supervisor of nutrition aides who thought that the use of CSCS would provide answers to non-nutrition questions the aides are asked by their homemakers, thus releasing the aide to do the nutrition education she was supposed to do.

As one looks at development projects around the world, there seems to be a commitment to the field worker plan. Yet, it is difficult to train field workers enough, or enough field workers, to handle the kinds of information and education that are necessary in a total development program. With a tool like CSCS, the intimate, personal contact of the flesh-and-blood field worker can be combined with cassette technology to provide the efficiency of a mass communication technique. And of great importance is that with CSCS, the client does not have to be a prisoner of someone else's time schedule.

FOCUS ON THE FUTURE:
FUTUROLOGY FOR CORRECTIONAL EDUCATION

by

Richard W. Cortright
Division of Adult Education Service
National Education Association
Washington, D. C.

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FOCUS ON THE FUTURE: FUTUROLOGY FOR CORRECTIONAL EDUCATION

Richard W. Cortright
National Education Association

When I told a colleague that I was going to Indiana to speak about correctional education, he said, "What do you know about the special education of children?"

I said, "What do you mean?"

"Didn't you say corrective education?"

"No, no. Not the physically handicapped. This is correctional education. Prisons."

I wonder if it was just a mis-hearing or whether many people think of correctional education in the same way.

Crime marches on in American. Adult and juvenile crime and delinquency are on the increase. Perhaps two million children "come to the attention" of the police annually. Who knows how many do not? A half million cases are handled by the juvenile courts each year. About a million and a half others which do come before the police are disposed of without penal proceedings. About one person in every six who is arrested is under 21 years of age.

You know, as professionals, these facts, but even the layman has some notion of the extent of crime and delinquency. After all, a daily reader of the morning paper can hardly help but be aware of crime in metropolitan America. For example, shortly before Christmas, the Washington Post ran on one page stories under the following captions: "Ex-Convict Fears Criminal Past," "District Court to Settle FBI Record Case." "Drug Case Juror is Arrested."

"Threat Halts Demolition of N. W. Building." "Jury Selected for Comeau Trial in Mattingly Death." "High's Stores Plagued in Rash of Robberies During November."

Aware of the local problem of shoplifting, businessmen in North Carolina attended seminars on "Reducing Shoplifting Losses" and "Outwitting Bad Check Passers" conducted by the local community college.

Educational programs in penal institutions, and specifically adult basic education (ABE) programs help to reduce recidivism and thereby reduce crime. I do not need to review the history of, or the current status of ABE. That you have been doing as part of your hour-in and day-out Seminar for ten days. You know, for example, about the ABE demonstration projects on:

> Training to develop employability among mentally retarded inmates in institutions;
>
> Using college students from poverty areas as teachers of adult basic education to teach illiterate residents of mountain areas in Appalachia;
>
> Recruiting and instructing of paraprofessionals to assist a Negro inner-city community to raise its educational level;
>
> Producing a film and series of instructional guides for teacher-training in ghetto areas;
>
> Measuring effects of adult basic and social education programs on post-release adjustment and educational achievement of inmates of correctional institutions.

However, let me sketch a profile of the typical ABE person--nationally--so that you can compare your own ABE students with him: (Cortright, 1970.) (See also Attwood, 1970.)

> White (56.6 per cent), female (56.1 per cent), with a family income under $3,000 per year (44.5 per cent), employed (55 per cent), between 24 and 44 years of age (46.5 per cent). Grade levels between first to third grade classes (26.7 per cent), fourth to sixth grade classes (33.6 per cent), and seventh or eighth grade classes (39.7 per cent). (p. 63).

This profile suggests that the problem of illiteracy in the United States will remain a major socio-economic problem for years to come--perhaps decades.

You know that illiteracy results in reduced national wealth, social and cultural lags, weakened national security, slowed technological progress, hastened displacement of workers, lowered production, slowed economic growth, weakened democracy, and retarded world understanding and cooperation. Many Americans, however, still do not realize that millions of other Americans cannot read a daily newspaper, a weekly magazine, the Bible, or a paperback nove. These are the adults who for one of several reasons are the adult functional illiterates in the United States.

The adult functional illiterate is a "social isolate"; he is cut off from the mainstream of society. Illiteracy itself is a "social deficit." The illiterate bypasses the age of the printed page as he moves into the age of the mass media. He is like the illiterate Asian or African who, in the twentieth century, is beginning to learn about jets or missiles while his nation is actually still in the sixteenth century.

Many inmates are adult functional illiterates. In federal prisons, about eleven per cent of the nearly 21,000 inmates are considered illiterate (below grade 6.0). On a given day about 1,500 inmates are attending classes. Another 1,500 inmates are attending high school classes, and about 1,000 are attending GED preparatory classes. (See Carpenter, 1971). One correctional educator recently told me, however, that only three per cent of all inmates may be taking part in educational programs in penal institutions.

The public schools are trying out a variety of programs to bring back school dropouts, those under-educated young adults from whom an overly large number of lawbreakers come. For example, in Las Vegas, (Nevada) Valley High School (now called Urban High) has been designed to meet the specific needs of the students of that unique community, catering to the dropouts, chronic truants, erstwhile lawbreakers, and bright ordinary kids desenchanted with day school. Reports from Las Vegas indicate that students who hold down full-time jobs in the show and gambling businesses are succeeding at Urban High. Why not utilize the school facilities this way, cut down costs, and use this evidence to sell the public on voting bond issues? And, since dropouts are sometimes prone to commit crimes, thereby cut down on crime?

Two incidents come to mind when I think about correctional education, both from Asia. A few years ago I was working in the Philippines and went to a prison in the Manila area to test some new adult basic education materials in the Tagalog and Ilocano languages. The warden was friendly and took our group on a tour. As we climbed the stairs in one block I read a series of signs, carefully hand-printed and attached in ascending order: "Be Quiet--Don't Smoke--Keep Clean--Don't Steal." That was learning to read by the looksay method. The warden did not comment on its effectiveness.

Another incident took place in Pakistan. I was involved in a teacher training program and wanted to involve teachers from the provincial prison. So off to the warden--and this time he took us on a tour, gradually leading us to what he felt was the most important part of the prison. The cells, the furniture, the fresh air, the books, and the execution chamber. He was very proud of the scaffold and insisted that the punishment was dispatched with alacrity.

These incidents come back to mind whenever I think about correctional education. I suppose the first one was an example of poor pedagogy, but at least it was an attempt to use written communication to communicate. And the second, well, that was correctional education in which the correction was made permanent: like the correction fluid which typists use to correct (obliterate) a mistake. Is that what many people still believe "correctional education" to be?

To most laymen the problem of correctional education is probably simple. Either:

(1) Correct (obliterate) the inmate;
(2) Correct (keep him where he is--physically and mentally);
(3) Correct (show him his mistake and help him to rectify it).

I should suppose that most of us accept point three--and we include ABE as one way to help the inmate, and thereby society. ABE, federally funded, has been with us long enough to have accumulated a series of myths. Let's dispense with some of the myths about ABE. I would say these are some which are still promulgated:

1. ABE teachers are not usually very good. After all, they are just (slightly) warmed-over teachers of children who want to moonlight for a few extra bucks. (See Cortright, 1970, for a broader picture).
2. ABE teachers have few instructional materials which can be used. What we need to do is get the publishers finally to produce some useful materials for adults. (See Adult Basic Reading Instruction in the United States, 1967, for a different viewpoint).
3. If only there was some effective training for ABE teachers, they would be prepared to do a good job. Why don't the universities set up short courses and degree programs? (See Luke, 1970, for a counter statement).
4. Adult education is the forgotten part of education. Nobody knows there even is such a program. (See DeCrow, 1968, for another point of view).

We know there are good ABE teachers, although some are poor. We know there are many useful ABE materials. We know there have been effective training programs. We know the status of ABE has improved. We know these myths about ABE in the public schools are false. But, are these myths false, also, in the penal institutions? What is the purpose of ABE programs in correctional institutions? To help equip the inmate to function in society? Correctional personnel then also have the responsibility to help make society understand the inmate as a member of soceity. A warden writes, "Education is one of the most effective tools within a prison in the rehabilitation or treatment program." (Vitek, 1967). A number of indications from Maryland, Ohio, and Wisconsin point up the fact that with more education, there is less recidivism. (Cortright, 1965). Inmates can learn to read, reading advances education, and education leads away from redicivism. Does the syllogism need to be clearer?

Assuming that we are gathered here after nearly a fortnight of forceful presentations and hurried and harried hours of work in the spirit of the third alternative (see above), I would like to make a few suggested approaches for your decision--making consideration as you plan to implement your personal management plan--back home. These are the points which I think need special attention in using a systems approach to organize for more effective ABE programs in correctional institutions.

1. Develop innovative programs which make a difference

Excuse the new expression, "innovative". But isn't that really the purpose of this regional Seminar?

Learning Systems, Inc. has developed a concept of technical clusters for inmates in West Virginia and Pennsylvania. The concept focuses on an area of industrial arts, such as printing, and brings the teachers together as a team to teach this topic in a 1200 hour mini-project. For example, one mini-project was the production of a booklet on the great religions of the world. Five different teachers, including communication and math teachers, each spent time helping inmates learn what they needed to know in order to produce the booklet. The important part, I think, was the motivation which was generated. There was a need by inmates to learn to write a sentence, count how many copies of booklets might be sold, and find out about job opportunities which might be available at the time of release so that they would have a handle on a tangible occupation.

Another means of motivation (Mauk, 1970) was to use a financial incentive. If a person has completed elementary school, his expected lifetime income is $277,000. If he completes high school he is likely to add $94,000, bringing his lifetime income up to $371,000. Four years of college should add another $213,000, bringing income to $584,000.

What innovations have been successfully used to motivate inmates to complete an ABE program? Most wardens with any tenure at all have their favorite stories about Inmate Y and Inmate Z who was released, became successful in readjusting to the outside world, and sent back a Christmas card. He made it. Surely that evidence, although sparse, is welcome. However, what happened to all of the other released inmates? To what extent did the educational experiences in prison help them? In other words, what research facts do we have? I would suggest, as part of the delivery system which you are developing here and in the other Regional Seminars, a careful examination of this question. This research might begin with the recidivists. Did the ABE program which Inmate X received help him? Evidently not, since he returned. But why not? If we do not measure, in some way, our programs, how can we know if we have been effective? Correctional education goes on all the time in prisons and penitentiaries and jails. The point is not that there is no education in Prison P; the problem is that there may be too much education--of the wrong kind.

2. Match teacher and learner--for compatability

After all, no one gets along with everyone. A study from Ontario indicates that scores on hidden figure tests are useful in determining student readiness for group or individual study, as well as the suitability of certain teachers to act as leaders or consultants with certain students. An example of an attempt at better matching is the cooperative training project jointly sponsored by the University of Georgia, Teacher Corps, Georgia Department of Corrections, and the Goergia Department of Education.

Ahlstrom and Havighurst (1971) suggest guidelines for preventing dropouts, those students who provide the potential inmate population.

1. Maladjusted students need teachers with endless patience and determination to help them make an adjustment.
2. Those students who do profit from the work experience owe as much to the inter-personal relationships as to the owrk skills learned.
3. Preventive counseling can help students before trouble occurs. Presently, a counselor is brought in only after the damage has been done; and after the immediate trouble is past, the case is dropped.

3. Use volunteer aides

The Psychological Services Center of the Lorton (Virginia) Prison uses volunteer tutors to help illiterate inmates. The National Affiliation for Literary Advance, an organization of volunteer literacy councils has helped organize volunteer work in Sing Sing Prison, Georgia State Prison (Reidsville), New Jersey State Prison (Rahway), Jefferson Parrish Prison (Louisiana), Illinois State Penitentiary (Joliet), and the San Antonio County Jail (Texas). I have seen volunteer tutors working with inmates in Walla Walla (Washington) and Auburn (New York). Under direction, the volunteer can help the professional teacher. The fact that the President's National Reading Council plans to enlist hundreds of thousands of volunteer tutors attests to the soundness of using volunteers.

4. Relate ABE with AHE

Recent legislation has supported adult education to the twelfth grade level for adults. When this legislation is funded, there is going to be a large increase in Adult High School Education (AHE) programs. Of course, AHE is not new to inmate education. The Bureau of Prisons estimates over 1,000 GED diplomas issued annually. But we need to move more men and women inmates to the high school level. In fact, after discussion with labor and manpower economists, I am doubly troubled about just how far the eighth grade level gets a person anyway--particularly in terms of job placement. The point now is to inter-relate ABE and AHE so that the ABE student is motivated to go the second mile--and get his diploma. This is another reason for a close articulation of inmate education with the public schools.

Make contact with your local director of adult education. Find out how he can help you. The local education association may, throuth its adult education committee, find a teacher or two who can counsel and/or provide a few volunteer teaching hours. Or, can you pry more funds to hire another adult education teacher on your staff?

5. Let the correctional educators say, "We, too, will be accountable."

Good teachers want everyone to know that they are doing a good job and deserve a good salary with appropriate benefits. They want to provide educational experiences for inmates: quality education. Teachers can be accountable. The goal is to establish a (correctional) education profession which determines, abides by, and enforces its own standards. The following contingencies for teacher accountability are adapted from the National Commission of Teacher Education Professional Standards (1970):

1. Clear goals for correctional education, based on both local values and priorities and national purposes.

2. Acceptance of expert judgement of appropriate teaching and learning to achieve such goals.

3. An adequate number of personnel with sufficient skills to perform so that accepted goals are achieved.

4. Provision for identifying, educating, retaining, and continuously re-educating teachers to assure that they will always be up to date.

5. Teaching loads, time, and support services which are conducive to quality performance.

6. Appropriate media, materials, facilities, and learning resources.

7. Satisfactory salaries and welfare programs for teaching personnel.

8. High morale on the part of those who teach.

9. Appropriate evaluation of all the goals of instruction--academic, attitudinal, humanistic and behavioral--taking to account that the educational process itself should be highly valued and judged along with learning outcomes.

10. Leadership in institutions that fosters a wholesome social-psychological setting, an openness to constructive change, and a climate conducive to teacher and student success.

11. Strong public committment ot correctional education expressed in both moral and finanical support.

12. Provision by top administrators and boards of education of material resources, psychological climate, and the freedom needed to ensure top performance by both teachers and strdents. (pp. 1-2).

Of course, the profession has not achieved this level of performance yet. But this is the goal of those teachers whose correctional administrations should encourage to stay in the field. There may not be enough dropouts amont the poor teachers.

Donald Wilson, President of the Association of Classroom Teachers asks these questions:

> How should teachers respond to the issue of accountability? Do we assume a posture of apologetic defensiveness, or do we talk about accountability from a position of strength? Do we reject completely what the ciritcs say, or do we refine their statements and say clearly where we classroom teachers believe the major responsibility lies for innovations in education and for the task of defining the learning process and how it happens?

> We must consider the relationship between authority and accountability. We must determine whether we can delineate a sphere of accountability for the classroom teacher for his own performance and for that of his students.

It is proper and right for effective teachers in prisons, like all effective teachers, to monitor their own teaching; that is, to provide governance for their profession. Part of this governance includes the right of the teachers to help regulate the kind of educational experiences in universities and to help determine the university curriculum for advocating correctional education. Educational associations might want to work with correctional educators in designing appropriate curriculum for teachers of adult basic education.

6. Improve the status of correctional educators

Sufficient funding is imperative. A colleague from Quebec has suggested that funds appropriated for regular day schools be decreased and then these added monies be included in a larger fund which is available to adults at age twenty or later who are ready for school and know what they want ot learn from school. Some of these funds could go for proven correctional education projects. The Secretary-Treasurer of the Correctional Education Association surveyed a group of correctional educators (the 767 members of the Correctional Education Association represent perhaps five per cent of the potential population of correctional educators). He found, for example, that South Dakota has an accredited school with inmate instructors and that Texas has established a school district within a correctional system. (Seidler, 1971).

> Correctional educators are concerned about the work they do. The teacher in the classroom has little or no time to write about what he is doing. He is too busy trying to deal with the failures of public school education. He is bothered by the failures represented by high rates of recidivism. Usually he is the primary socializing force within the institution. If he does his work well, custodial supervision is easier.

> The inmate finds a larger sense of worth because he becomes a person within the classroom. When things go wrong within the institution the education and vocational programs are the first ones shut down. He is likely to find his curriculum and his spending determined by administrative order. He is not recognized as a professional in the institution nor is he recognized as one in the community. Whatever we can do together will of necessity have to say something about the professional status of correctional teachers (p. 5)

Should not teachers of ABE in correctional institutions join teacher associations and therefore be included in the bargaining units of teacher associations? The following suggested provisions for contracts, adapted from the National Education Association may be helpful for correctional educators in preparing appropriate provisions.

1. Full and part-time teachers of inmates should have, to the extent possible, the same contractual benefits, rights and privileges, including access to the grievance procedures, as any other teacher in the association.
2. The hourly rate of pay for part-time teachers of inmates should be computed according to some objective and equitable basis, such as an hourly rate based upon the salary of a full-time teacher of children with comparable training and experience.
3. Full-time and part-time teachers of inmates who work outside "regular school hours" should receive such additional benefits and protections as are necessary.
4. Provision for at least ten hours of in-service training programs in methods of teaching adults shall be made by the institution at no cost to teachers in which they shall participate at their regular rate of pay.
5. Provision should be made for teachers to attend, at institution expense, at least one professional education conference during the school year.

7. Employ correctional educators in the public schools

The process should go both ways. Crime prevention as communicated in adult education courses in the public schools is one way of communication to parents of school age children. Already some adult education departments in the public schools are operating such courses. Correctional educatior would be ideal resource specialists or course leaders. Olson (1971) reports a course on "Parents Concerns in Drug and Sex Education" offered by the Prince George's County (Maryland) Public Schools. Public schools also offer courses for inmates. "Crime and Delinquency Prevention Program" is offered in the Flint (Michigan) adult education program. This course includes aptitude testing, public speaking, vocational counseling, job placement assistance, and various follow-through services for inmates. Eighty per cent of those taking the program have not been re-arrested in a two year period. The Fort Wayne (Indiana) Community Schools offer programs leading to the GED. Graduates with the diploma, but not released from jail, become teachers' aides.

Could correctional educators be trained to serve as consultants to, or leaders of adult education programs in the public schools? Could they carry out home visits and help ease the "re-entry" problem of inmates? Crime itself hurts adult education. The headline of the Washington Daily News of January 7 was "Crime Forces Big Drop in D. C. Night Schools." People were afraid to come out at night to go to night classes for adults.

8. Consider resigning from correctional education

I have not seen your flow charts and have not followed your loops. But I might guess that one direction which some correctional leaders might go--is right off the page. That is, teaching or administering an ABE program in a correctional institution is not for him or for his colleagues. In that case, perhaps he should consider resigning. I have on my desk the announcement of a new job to coordinate a broad range of residential conferences, institutes, seminars, workshops, and short courses for managerial and supervisory personnel. The person helding the position should have a correctional background. Is that for you? Or, is one of, I am sure, many other related jobs? If you leave, however, find someone to take your place and transmit to him or her your conceptual model and management scheme. Let's keep only the best and most dedicated professionals in correctional education, monitor the profession ourselves. After all, correctional work is not for everyone. But, for those who stay, let them really believe it can make a difference.

My position in the futurology of correctional ABE is that if some of the eight suggestions mentioned today are implemented--the future of correctional education will be bright. Since most of the thousands of adult inmates do return to the larger society from whence they came, then the need for education, and specifically that of adult basic education, is imperative. Without an elementary adult education, let alone a high school education, the economic prospects for an ex-inmate are bleak. Without a job, the chances of recidivism are gorss. Recidivism repeats the cycle, and education, once again, and this time correctional education, has failed.

We need all of the useful manpower our nation can provide for the exciting decade ahead, that what the United Nations calls the Second Development Decade. Surely we know now that inmates can sometimes be rehabilitated and that effective education is a necessary, if not sufficient cause for the rehabilitation.

Perhaps the tail will wag the dog. In the public schools, teachers are assuming greater leadership responsibilities. Teachers may run schools: Analogously, will that happen in the penal institutions? If education leads to rehabilitation, then perhaps the tail will wag the dog in institutions also.

This futurologist concludes by pleading for a better system of correctional education in our land--to help redeem--in effect, the entire field of corrections.

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USING EXPERIMENTAL DESIGN IN EDUCATIONAL RESEARCH IN A VOLUNTEER, INFORMAL ADULT EDUCATION PROGRAM

— A Case Study* —

Presented at the
Adult Education Research Conference
Montreal, Canada
April 5, 1973
by
Clarence J. Cunningham
Professor, The Ohio State University

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*Based upon a dissertation "The Newsletter as a Communication Medium in Teaching Low-Income Homemakers" by Joseph A. B. Efionayi at The Ohio State University in 1970.

Educational researchers strive to do the best possible research to solve the problem under study. In many cases this means the use of experimental or quasi-experimental designs such as those discussed by Campbell and Stanley (2, pp. 171-246). The research being reported in this paper is one example of the use of the posttest-only control group design as explained by Campbell and Stanley. In reviewing the analysis of this design by Campbell and Stanley one notes this design has little internal invalidity and has as good external validity as any of the true experimental designs.

The primary purpose of the study was to determine the effectiveness of newletters as a medium of information for a program designed to improve the the quality of nutrition among the low-income families.

The objectives were to determine the sources from which the low-income families generally receive information about nutrition, to determine the extent to which the participants acquired knowledge of nutrition principles as taught through newsletters and to determine the participants' attitude towards newsletters as a medium of information about nutrition.

As can be observed by an analysis of the objectives, only the second and third objectives were related to the experimental part of this study. For this reason, discussion on methodology is related primarily to these two objectives, although, some findings are related which deal with the first objective.

Nature of the Study

This study was carried out in connection with the Expanded Food and Nutrition Education Program (EFNEP) as conducted by the Ohio Cooperative Extension Service. The EFNEP program was designed to help low-income families to more easily solve their nutrition problems — to efficiently use their food dollars and effectively provide for adequate nutrition of their family members.

The EFNEP program was initiated to reach the low-income families by personal contact. This was done by paraprofessionals or aides who were hired from the low-income community. In most educational programs it has been shown that more than one method or communication medium was desirable in educating clientele. A number of studies have shown the newsletter to be an effective tool in marketing, disease prevention, home economics subjects, and related fields (1, pp. 35-53). For this reason the newsletter was chosen as a medium for study to determine if it would effectively supplement the personal contact of the nutrition aide.

Methodology

The design of this study was the posttest-only control group design shown schematically.

$$\begin{array}{ccc} R & X & O_1 \\ R & & O_2 \end{array}$$

The R represents randomization, X is the treatment given to the experimental group, and O_1 is the observations made of the experimental group while O_2 is the observation of the control group.

Population

The study was conducted in the Montgomery County, Ohio area (Dayton) where there were 355 families in the Expanded Food and Nutrition Education Program. These families were being educated by personal contact by 15 nutrition aides.

Pre-determined income and education levels were defined to provide directions for stratification and categorization of the participants. Three levels of income were isolated and defined as:

(a) "Lower" low-income group, $1,999 and below, annual income.

(b) "Medium" low-income group, $2,000 to $3,999, annual income.

(c) "Higher" low-income group, $4,000 to $5,000, annual income.

Each level of income was sub-categorized into two levels of education.

(a) High Education (ninth grade and above)

(b) Low Education (eighth grade and below)

Sampling and Randomization

In each of the six categories of the population there was drawn, randomly, 28 families into each of the cells:

	"High" Education 9th and above	"Low" Education 8th and below
Lower income $1,999	28	28
Medium income $2,000-3,999	28	28
High income $4,000-5,000	28	28

Variables

The independent variables in this study were:

(1) A home economics newsletter on better breakfasts

(2) Income levels of participants

(3) Education levels of participants

The dependent variables in this study were:

(1) The cognitive knowledge scores on a test on the principles of better breakfasts

(2) Participants' reactions to attitudinal statements in relation to the newsletters

Treatment

The treatment, a home economics newsletter on better breakfasts, was mailed every 14 days starting in January, 1970. Eight such newsletters were issued in a series dealing with the principle of buying, preparation and storage of food in relation to breakfasts.

The newsletters were written by Iris Macumber, the professional Extension home economist in Montgomery County, Ohio. They were written in simple language with an ample supply of pictures so they would be suitable for those with a lower level of education.

The Dale-Chall Reading Difficulty Formula (21, pp. 65-69) was used to determine the educational level at which they were written. They were written at the fifth or sixth grade level.

All 355 families in the program were contacted by nutrition aides as if no experimental work was being conducted. The aides who visited the families at home knew the project was in process but did not know who was receiving the newsletter unless they saw it in the home. No instruction was given on better breakfasts by the aides during the period of the experiment.

Instrument Development

An interview schedule was developed to measure recall of nutrition principles on breakfasts that was taught in the newsletters.

After development of the initial 44 items, the face validity was checked by having nutrition and testing experts study the newsletters and the proposed questions. Sources of information about nutrition and better breakfasts was included in the interview schedule as was personal data.

A second segment of the interview schedule was developed to determine attitudes about the newsletter by those in the experimental group.

A field test of the interview schedule conducted with the homemakers of 18 families not included in the control or experimental groups. A Spearman-Brown split half reliability check showed a .71 correlation on the knowledge test.

An item analysis was done on the knowledge questions comparing responses of high scoring with low scoring respondents on each question. Invalid items were eliminated leaving 30 items.

Interviewers

The nutrition aides were selected as the interviewers since they had rapport with the families. Aides were trained to do interviewing including practice session and field testing practice.

Data Collection

Much of the needed background data were taken from permanent records on the families available in the Extension office. These data were secured by the researcher.

The remainder of the data were collected from the homemakers of the families in the control or experimental groups after conclusion of the treatment.

Data from files was available on 167 while data on nutrition knowledge was available on 120 (there was a 72 percent completion of the interviews).

Results

The findings of this research study as they relate to the specific objectives are presented here.

Specific Objective 1 — — To determine those existing sources of information through which the low-income families generally receive their nutrition information.

The respondents, both the control and the experimental groups, perceived the nutrition aides as their most frequent sources of nutrition information. Television was ranked second by both groups and frequency of contact with neighbors was ranked eighth by both groups. The frequencies of exposure to all sources of information on nutrition was significantly correlated between the control and the experimental groups.

To the question regarding sources of information on better breakfasts, the nutrition aides were ranked as the most frequent source of information about better breakfasts. The experimental group ranked the newsletter second; the control group ranked the newsletter eleventh.

Both groups perceived the store owners as least frequent sources of information on better breakfasts.

Specific Objective 2 — — To determine the effectiveness of the newsletter as a medium of communication, in enhancing the cognitive knowledge of homemakers of low-income families with relation to nutrition principles.

The experimental group that read the newsletter had a mean score of 23.3 regarding knowledge of nutrition while the control groups that did not read the newsletter had a mean score of 20.9. This was a significant difference.

When the three income categories were compared there was no significant difference between the cognitive knowledge mean scores of the income groups.

Within the lower income group of $1,999 and below, the low education homemakers (eighth grade level of education and below) learn more than the homemakers with a ninth grade level of education and above. The lower education groups had a mean score of 21.00 while the homemakers with an educational level of ninth grade and above had a mean score of 18.64.

Within the groups categorized as medium and upper income levels, the different levels of education had no great effect on the homemakers in learning from the newsletter. Their mean cognitive knowledge scores showed no significant difference.

> Specific Objective 3 — — To determine the direction and extent of low-income families' attitudes toward newsletters as a medium of information on nutrition.

Low-income homemakers with low education ranked highest among the groups who felt like doing what they read in the newsletter.

The number of homemakers who did what was read in the newsletter on better breakfasts was larger among those with lower income than among those with higher income.

The number of homemakers who perceived lack of money as cause for not taking action increased with a decrease in income and increase in education.

The number of homemakers who perceived the color of the paper used for the newsletter as being attractive increased with a decrease in income but with an increase in education.

Conclusions

While caution must be exercised in generalizing the result findings, the following conclusions were reached.

The use of newsletters in the nutrition program had proven its value by providing directed experience for the low-income homemakers in Montgomery County and by involving them at individual rate of learning process.

The low-income homemakers perceived having learned new ideas from the newsletter and that it had helped them in saving money on buying of food.

The learning situation was brought closer to the homemakers through the newsletters and offered experiences which stimulated self activities on the part of the low-income families.

The level of formal education of the low-income homemakers was a factor in the amount of learning acquired of nutrition principles through the newsletters.

Rising levels of income were not related to an increase in the learning rate of low-income families in Montgomery County.

The formal education level of the low-income families had effect on their attitudes towards the newsletter as their medium of education. The higher the level of education the stronger the favorable attitude statements were evidenced.

The newsletter is a potential communication medium through which the low-income families could be taught about nutrition principles. The use of newsletter, therefore, should be incorporated into the teaching methods now being adopted in Montgomery County, Ohio nutrition programs.

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A STUDY OF CERTAIN PERSONALITY AND SKILL CHARACTERISTICS OF THE EXPANDED FOOD AND NUTRITION EDUCATIONAL PROGRAM AIDES AND HOMEMAKERS

A REPORT OF RESEARCH IN PROGRESS

THE DEVELOPMENT OF INSTRUMENTS

Presented to the Adult Education Research Conference
Montreal, Quebec, April 5, 1973

Lynn E. Davie

and

Beverly Williams

Washington State University

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Introduction

Washington State has had paraprofessional Expanded Food and Nutrition Education Program aides since 1969 to encourage low-income homemakers to improve nutritional intake. In that period of time, from 1969 to the present, the state has hired women on a part-time and full-time basis who are from a similar racial socio-economic background as their homemakers. At present there are approximately 100 paraprofessional EFNEP aides employed in the state working with 1500 homemakers. Program leaders and county agents have evaluated the overall program as successful, based on individual case studies and data collected showing improvement in homemakers' nutritional intake. The fact that there has been little turnover in employment of aides also indicates some satisfaction with the program on the part of the aides. But determining what makes the program successful, which characteristics an aide or homemaker must have in order to be successful, and which characteristics the supervising personnel regard as important for successful aides and homemakers are all questions that have been left unanswered.

In regard to the aides, research seems to fit into one of two categories: (1) The study has found no significant correlation between success and other characteristics of aides; or (2) the significance found between successful aides and other aide characteristics was based on a criterion of limited value.

A national study of the Expanded Food and Nutrition Education Program was conducted by the Synectics Corporation in 1970-71 (29). Part of the study examined various characteristics of the program to see if there was a correlation between specific characteristics of the aides and the improved nutrition of the aides' homemakers. The 24-hour food recall taken when the homemaker enrolled in the program and again in six months was the standard criterion used to determine improvement of the homemaker's nutrition.

The research study found no relationship between the characteristics measured (age, education, socio-economic level, ethnic background, and geographic location) and improvement in the homemaker's nutrition.

A dissertation by Malati Surendra Chakravorty of Iowa State identified aide characteristics in terms of various case studies. No objective measurement was taken to determine these characteristics, nor were they measured against any criteria to determine if they do, as a matter of fact, influence role or job success (8).

Clyde Triplett of Missouri State in 1971 was also interested in aide characteristics and their relationship to role performance. Of all the characteristics he measured, only education, emotional stability and friendliness were found to correlate to his established criterion of success. In this study, success of the program aides was based entirely on an evaluation form completed by their supervising personnel (36). Age, race, tenure, residence, general activity, restraint, ascendance, sociability, objectivity, friendliness, thoughtfulness, personal relations, masculinity-femininity, trustworthiness, altruism, independence, strength of will, self-esteem, and self-acceptance were tested variables that were not found to be significant.

One way of characterizing personality is in terms of motivation. The concept of motivation might prove useful in predicting the success of aides and homemakers. As far as could be determined, no studies have been conducted which look at the aides' personal motivation in relationship to their work, their recipe skills, their demographic characteristics or their role success. Questions of interest include the following: (1) Is the aide who is most highly motivated to achieve in work the most successful aide? (2) Is the aide who is motivated to achieve in her work adept at basic recipe skills?

In regard to homemakers, most studies available have first of all identified homemaker characteristics such as the mean age, education, family size, children in school, percentages in each ethnic group, geographic location, and income level (29, 19, 21, 20, 14). Second, each of these studies has regarded increased nutritional intake of the homemaker in a six-month period as shown in the 24-hour food recall as the criterion for success as program homemakers. Two studies have shown a relationship between the different characteristics and homemaker success using this criterion. "A Study of The Expanded Nutrition Program in Waco, Texas," has shown an association between the variables of age, income, family size, and education of homemakers, and the length of time as ENP participants, with the homemakers' food and nutritional intake (32). In addition, a Louisiana State University evaluation found a relationship between income of homemakers and improved nutritional intake, and a second relationship between residence and progress in adopting all four food groups (19).

Although homemaker characteristics and homemaker success have been clearly defined, no studies thus far examine the relationship between motivation of homemakers and demographic characteristics, recipe skills, and success as homemakers using the criterion of the 24-hour food recall, and evaluations by the program aide.

The limited information regarding the motivational make-up of program aides and homemakers suggests the necessity to examine the aide's and homemaker's motivation and to see how these relate to their knowledge of recipe skills, their success at changing nutritional intake, and their success at performing institutional roles.

In order to accomplish this task, a variety of measurements are being taken. The measures include (1) providing and applying effective guidelines for identifying successful and unsuccessful aides and homemakers; (2) measuring the aide's and homemaker's motivation; (3) and measuring the program aide's and homemaker's recipe skills. The next step is to examine the following questions:

1. Is there a relationship between the aides' motivation and the aides' demographic characteristics?
2. Is there a relationship between the aides' motivation and their success in the program?
3. Is there a relationship between the aides' recipe skills and their success in the program?
4. Is there a relationship between the homemakers' motivation and the homemakers' demographic characteristics?
5. Is there a relationship between the homemakers' motivation and their success in the program?
6. Is there a relationship between the homemakers' recipe skills and their success in the program?
7. Does the homemakers' motivation change during their participation in the program?
8. Do the homemakers' recipe skills change during their participation in the program?
9. Does the aides' motivation change during their employment in the program?
10. Do the aides' recipe skills change during their employment in the program?

Background of the Problem

Motivational Measurement. In determining the effect of motivation on program success, it becomes necessary to adopt a useful concept of motivation. The criteria utilized in the adoption of a motivational theory for this study were: (1) The theory must possess sufficient predictive validity when applied to the population of concern; and (2) there must exist an instrumentation which could be adapted for use in a field setting. The theory that best met these criteria at this time was the achievement motive, conceptualized by McClelland, which he called the Need for Achievement.

In order to examine how well the McClelland theory fits our criteria, it is helpful to examine: (1) the ways in which the Need for Achievement (N-Ach) has been measured; and (2) studies with low-income or culturally diverse groups in which the theory has been tested for predictive validity.

Scoring the Thematic Apperception Test for N-Ach involves two steps. The TAT provides a tool for looking at the effects of motivation through an examination of a person's fantasy. Its purpose is "...for bringing to light the strivings of the individual in imaginative stories suggested by stimulating pictures ..." (23, p. 107). The presence of N-Ach is indicated when an individual includes references to a standard of excellence and a concern for competition with this standard even if the individual cannot achieve the goal (22, p. 110).

In order to measure N-Ach, the individual is asked to tell or write a story in which words in achievement-related categories are tagged. It is assumed that the person who makes many such references to achievement in his stories is more highly motivated for achievement than the person who makes few such references.(23, p. 146). To determine the number of such achievement related categories, a simple count of the ideas can be taken to represent the strength of the person's concern with achievement. "The count has been called the score for N-Ach"(24, p. 43). McClelland assumes that "...the thought processes of an individual are in part determined by his present state of motivation and that in complying with a request to write imaginative stories, he reveals the content of his dominant thoughts...indirectly, his state of motivation." (23, p. 194).

Therefore, it is expected that the aide who has been identified as successful will score higher in N-Ach than the aide classified as less successful or unsuccessful. Due to the very fact that she holds a job requiring training and goal orientation, she more nearly tends to fit McClelland's model of a high need achiever. "People who are highly motivated think more often in anticipatory and generalized terms. They are concerned with general and vague life goals" (23, p. 253). They are willing to overcome obstacles, take risks, and delay gratification.(26). The unsuccessful aide would presumably be a low N Achiever, for the low need achievers are categorized as those who "...think less in generalized terms and are more concerned about the difficulties in the way of achievement (23, p. 253); therefore, never striving to meet or to consider the existences of a "standard of excellence."

The literature concerning the use of the TAT for N Achievement measurements with low-income and culturally mixed groups reveals conflicting opinions and findings. Two different studies found the TAT for N Achievement inappropriate when working with low-income and cross-cultural situations. Michel in his article, "Delay of Gratification, Need for Achievement and Acquiscence in Another Culture," found when using the TAT with Trinidadian Negro children, that it was difficult to get adequate and appropriate pictures for use with different cultures (25). Morgan, when using the TAT with laborers in Michigan State found it difficult to get imaginative stories which provided enough information for scoring (27). This contention was further supported by a national sampling of blue collar workers cited by Morgan in "The Achievement Motive and Economic Behavior." He states that the national findings indicate that the TAT was difficult for uneducated and not very verbal people. Their stories were too short and interview time too lengthy (28).

However, other studies have found the TAT pictures quite beneficial when used with low-income populations or people from different cultural backgrounds. Cameron, although not measuring N Achievement, found the TAT pictures good stimulators for verbal responses when studying White Canadian and Indian Canadian children for successful concept learning. Ms. Cameron found that economic status was a more important variable than racial or cultural background in the kind and amount of response (6). The TAT of scoring N Achievement was used successfully by Hall in California with Mexican American youth from middle and low socio-economic levels (17). Crockett used McClelland's TAT technique successfully on lower middle class working class adults (9). Other studies have supported the use of the TAT pictures for measuring N-Ach in cross-cultural situations such as Cuban American children (37), male Hawaiian American teenagers (34), and Black undergraduate university students (13). With each group, this projective technique proved successful in eliciting adequate achievement related responses.

Due to the conflicting results with the TAT pictures as stimulators of measurable verbal responses for this particular audience, it is not possible to determine whether such a testing technique will work with the EFNEP program aides and homemakers before the technique has been tested. There is enough evidence to indicate that the TAT measure for N Ach will probably (1) measure a personality characteristic of program aides and homemakers not yet measured, and (2) elicit sufficiently adequate verbal responses for an accurate measurement of aide motivation.

The audience in the present research tends to deviate from those groups of people previously tested for N Ach with the TAT stimuli in one additional important way. The culturally different and/or low-income populations used in previous researches, as noted, have tended to be children, college students, or male blue collar workers, as opposed to the adult women from the low-income, racially mixed population of the present study. It is assumed that the TAT pictures as stimuli will work with this new audience for two reasons.

(1) The homemakers (respondents) are being interviewed by a non-threatening individual (the aide) in a non-threatening environment (the homemaker's own home).

(2) The homemaker (respondent) and the aide (interviewer) have had at least two sessions together before the aide has attempted an interview, and generally a feeling of confidence has been established.

Field testing of the procedure and preliminary data from the project indicate that the population did respond adequately to the procedure and instrumentation outlined later in this paper. A sample of responses indicate that the mean length of response is 187 words with a standard deviation of 140.6 words.

The Relationship of Skills to Change in Dietary Behavior

Several studies have looked at the relationship between education of EFNEP aides and homemakers and various program effectiveness criteria. For example, in Munger's evaluation of the Expanded Nutrition Program (29), she attempted to correlate years of education of both the homemaker and the aide to increases in dietary intake adequacy. She found no significant relationships. Triplett (36) did find a relationship between years of education of aides and the rating they received from their supervisors. It is contended here that the question of the specific skills needed to understand and follow a recipe, such as measuring, use of utensils, or heat source, has not been investigated, as these skills are not measured by years of schooling.

It seems quite appropriate to examine the following question: to what extent does the absence of certain recipe following skills limit the ability of either the aide to teach or the homemaker to learn new dietary habits? As presently constituted, the Expanded Nutrition Program in the State of Washington is heavily dependent upon recipes. These recipes have been especially written for the population and the editor stresses both ease of comprehension and attention to basic nutritional information. The aides discuss these recipes with the homemaker, and the recipes often form the basis of the day's lesson plan. The recipes are always left with the homemaker for later reference. This kind of use seems to suggest that an appropriate question for an evaluation study would be to consider whether or not a homemaker who is severely limited in her reading, calculating, measuring and cooking skills can benefit from the program as presently constituted.

Note the unequal relationship being hypothesized here between skills and change in dietary behavior. It is not being suggested that high skill levels should lead to improved nutritional intake, but rather that low skill levels should limit the possibility of changing nutritional intake. Thus, a design which attempts to correlate skill level with change in the 24-hour food recall should show low correlations; because if large numbers of the sample which are included possess sufficient skills, then no relationship is to be expected. The important questions may be answered by employing a strategy which looks specifically at those homemakers (and aides) who possess particularly low levels of skill either at the beginning or the end of the study. In order to study the relationship between low skill levels and change in the 24-hour food recall, the following set of hypotheses was formed.

General Hypothesis:

While high recipe following skills as measured by the Recipe Skill Inventory do not necessarily lead to improved nutritional intake, low recipe following skills as measured by the Recipe Skill Inventory will limit the possibility of changing nutritional intake.

From this general hypothesis four predictive hypotheses were deduced corresponding to possible patterns which might be found in a longitudinal study. They are:

H_1: If the homemaker has a low skill level (lower quartile) at Time 1 and a low skill level at Time 2, then there will be no significant change in nutritional adequacy as measured by the 24-hour food recall.

H_2: If the homemaker has an adequate skill level at Time 1 and an adequate skill level at Time 2, then there should be no correlation between skill level and significant changes in nutritional adequacy.

H_3: If the homemaker has a low skill level at Time 1 and an adequate skill level at Time 2, then it is predicted that there will be a significant positive change in nutritional adequacy.

H_4: If the homemaker has an adequate skill level at Time 1 and a low skill level at Time 2, then it is hypothesized that some significant negative change has occurred in the homemakers' psychological ability to cope; and thus either no change or a negative change in nutritional adequacy will occur.

Background for the Teaching Skills Inventory

It is clear that any evaluation of the effectiveness of an educational program should examine the interaction in the instructional setting. A great deal of research has been conducted on the observation and coding of teaching settings. Most conceptual systems are either too classroom oriented, such as the wide variety of teacher rating sheets utilized in various school settings, or require extensive training for the observer, such as the systems developed by Flanders (11), Bales (1), or Medley and Mitzel (25).

For this research it was necessary to find or develop an instrument which met the following criteria. First, the instrument should be easy to use in the field. It should require a minimum of training for the observer, and the use of the measure should be as inconspicous as possible to reduce the amount of reactivity. Second, the instrument should organize observable behavior rather than strictly verbal behavior. Third, in the setting in which the EFNEP is carried out much of the success of the program is hypothesized to come from a continuing relationship between the aide and the homemaker. As a result, it was felt that the instrument should focus on relationship maintenance variables. Fourth, instruction in the EFNEP is most often carried out in dyadic or very small groups, so the measure should be effective in small group settings which are conducted in a wide variety of locations. Finally, because the EFNEP program is conducted under such a variety of conditions, it was felt that the instrument should focus on adaptive behavior of the aide to changing stimuli.

A conceptual model which appears to be useful is offered by Carkhuff in his Helping and Human Relations (7). He defines a helping relationship in two propositions that say that a more effective helper is one who (1) offers high levels of facilitative conditions, such as communicating high levels of respect and warmth, and (2) initiates action-oriented dimensions in a helping relationship such as confronting the person being helped with reality, and being able to act with immediacy (7, p. 37-39).

Carkhuff's model was originally designed for the therapeutic setting, but is finding increasing use in other helping relationships. For the purposes of use in the EFNEP, it appears that a subset of the original model should be selected for development into a field-oriented instrument. The following behaviors appear to be directly facilitative of aide teaching and were tentatively adapted for instrument development: tolerance, energy level, and warmth. Definitions for each scale and behaviors which fit the definition were identified.

Research Design and Instrumentation

Research Design. The research is a longitudinal study comparing the variables for two groups of aides independently divided into a successful and unsuccessful group. This division will be performed after data has been collected utilizing the agent's ranking of aides in her program unit, other aide's rankings of themselves in relation to each other, and success in inducing change in homemaker food recalls.

A similar strategy is being employed for the analysis of the data being collected on the homemakers.

Figure 1 presents a schematic diagram representing the design for the study. Measurements are taken for both N-Ach and skills early in the study and again after six months. Criteria for distinguishing among homemakers will be the homemaker's performance on the 24-hour food recall, the aide's judgement of the homemaker's willingness to participate in the program, the aide's judgement of the increase in the homemaker's utilization of taught nutrition information, and the records of regularity of lessons.

Sample

The project intended to include as the population (1) all EFNEP aides in Washington, and (2) all new homemakers enrolled in the EFNEP program between August 1, 1972, and November 30, 1972. Due to a variety of uncontrollable circumstances, however, not all aides and homemakers were included.

FIGURE 1.

Research Objectives

OBJECTIVES	EVIDENCE	INSTRUMENTS
1. Are there any measureable changes over time in the program aide's and homemaker's N-Achievement as defined by McClelland?	N-Achievement score from first and second interviews.	Taped interviews and computer analysis.
2. Are there any measureable changes over time in the program aide's and homemaker's recipe skills?	Recipe Skill Inventory Scores from first and second evaluation for aides and homemakers.	RSI 1: Homemakers RSI 2: Aides
3. Are there any measureable characteristic differences between aides who have been identified as successful and aides who have been identified as unsuccessful in terms of N-Achievement and homemaking skills?	For identification of successful aides: a. Agent's ranking of aides. b. Aides' selection of top quartile of aides. c. Change in nutritional intake of aides homemakers after 6 months in the program.	a. Forms for ranking aides by agents. b. Form for top quarter aides in county by other aides. c. Federal 24-Hour Food Recall form from Family Records.
4. Are there any measureable characteristic differences between program homemakers who have been identified as successful and program homemakers who have been identified as unsuccessful in terms of motivation and homemaking skills?	For identification of successful homemakers: a. Aide's ranking of her homemakers. b. In nutritional intake after 6 months with the program.	a. Aides' ranking form for homemakers. b. Federal 24-Hour Food Recall form from Family Records.

Illnesses in both groups, termination of the program by some homemakers, and the inability of some aides to handle the interview situation eliminated members of both populations from the study. Of the 759 enrolled homemakers, the research population includes 502 homemakers. Of the 88 aides in the counties to be studied, 81 participated in the research. Eight of the nine EFNEP counties comprised the actual field study, whereas homemakers and aides from the ninth county served as the pilot population for developing and testing both training procedures and instruments, and therefore were not included in the actual field population.

The aides included in the study had the following characteristics. Data was provided for all aides in the counties studied, not just those who participated. (See Table 1 and Table 2)

Analysis of Data

The collected TAT stimulated interviews will be subjected to a content analysis utilizing the computer-aided content analysis programs of the General Inquirer (32). The data are keypunched and then each word or phrase is tagged as belonging to one (or more) pre-determined categories. Coherent categories are developed prior to data collection and keypunched and entered as a part of the computer program. As each word of text is read into the computer, the program looks up that word in the specified dictionary and tags the words with indicators specifying the appropriate categories. At a later time various counts are made of each of the categories in order that statistical analyses may be made. Olgivie and Woodhead have developed a dictionary for use with the General Inquirer programs (32).

The statistical design will utilize a discriminate analysis in which the successful vs. unsuccessful categories will be utilized as the dependent

Table 1. Aide Characteristics

Ethnic Background	N=88
White	55%
Black	23%
Chicano	13%
Indian	9%
Oriental	0
Other	1.1%

Language Spoken	N=88
English only	76%
English & Spanish	16%
English & Indian	5%
English & Oriental	0
English & Other	3%

Education N=88

mean=11.2 years of schooling
standard deviation=1.2

Geographic Location	N=88
urban	59%
rural	38%
farm	3%

Marital Status	N=88
single	5%
widowed	6%
married	75%
divorced	11%
separated	3%

Source of Income In Addition to Aide's Salary	
yes	85%
no	15%

Work Load	N=88
halftime	25%
3/4 time	69%
fulltime	6%

Type of Instructional Contact	N=88
group	10%
half group/half individual	32%
individual	58%

Total Family Income N=88

mean=$8,322
standard deviation=$2,083

Families Enrolled Per Aide N=88

mean=32
standard deviation=8.9

Age N=88

mean=43.6 years
standard deviation=5.6

Aide Family Size N=88

mean=5.4 persons
standard deviation=2.0

Table 2. Homemaker Characteristics.

N varies slightly from item to item due to incomplete data in certain areas.

Ethnic Background N=498

White	72%
Black	7%
Chicano	10%
Indian	9%
Oriental	6%
Other*	1%

*East Indian, Eskimo Indian

Language N=492

English only	86%
English & Spanish	9%
English & Indian	3%
English & Oriental	0
English & Other	2%

Education N=497

8th or less	20%
9-12	73%
beyond	7%

median=10.828

Geographic Location N=505

urban	67%
rural	30%
farm	3%

Family Income - Monthly N=489

under $84	2%
84-167	8%
168-250	26%
251-333	29%
334-417	20%
418 and over	14%

median=$300.81

Federal Assistance* N=500

none	35%
some	65%
foodstamps	60%
welfare	48%

*Some families receive more than one kind of assistance.

Age N=497

mean=28.5 years
standard deviation=8.65

Number of Family Members N=497

mean=4.24 persons
standard deviation=1.2

variables. Each of the other variables will be examined to see to what extent they contribute to predicting the dependent variables.

Development of Instruments

Measurement of N-Ach. In the development of an instrument for the measurement of motivation, stress has been placed on an instrument that was easy to use in the field, as nonreactive as possible to spurious influences in the measuring situation, but which would yield accurate discriminations between those individuals with a high need for achievement and those with a low need for achievement. Because large amounts of data were involved, the instrumentation including analysis should also be economical in coding and scoring costs. The machine coding of natural language interviews stimulated by ambiguous stimuli was selected as best meeting these criteria.

There are several reasonably well-developed theories of motivation which could be used to determine change in motivation as a result of educational programs, or to relate certain motivational patterns to obtained outcomes of educational programs. One reason for the apparent lack of such studies is the difficulty of administering psychological instruments to program participants in voluntary programs, especially if those participants are of certain socio-economic classes. Difficulties in gathering such data include reluctance of participants to take psychological instruments because of suspicion, limitations of reading ability in terms of comprehension, and unknown participant reactions to certain stimuli presented through the instrument itself. In order to investigate motivational questions, it seems necessary to collect data that are naturally produced, which can be validly and reliably collected and analyzed, and which are very sensitive to differences in motivational states.

The method of content analysis of natural language appears promising in this respect. Researchers and theorists of a variety of orientations and disciplines have been able to use the analysis of natural language to develop and test motivational theories of reasonable utility and precision. Motivational theories which have been tested utilizing content analytical methodologies include McClelland's theory of the need for achievement (23), Erikson's Ego Crises Theory as studied by Boyd (5), various studies utilizing the Thematic Apperception Tests (37, 30), and studies of the Rorschach technique (10, 22). Results from these studies indicate that it is difficult, but feasable to infer theoretical motivational states based on the evidence of the use of certain natural language words and patterns. Such inferences may then be used predictively in a variety of research applications.

Some advantages of the use of language as research data include the fact that natural language protocols may with some ingenuity be gathered in such a way as to reduce the amount of interactivity due to the instrumentation. Second, data once gathered may be shared with colleagues in order that the analysis may be replicated by other competent researchers. Third, data may be utilized from situations in which the presence of an observer would be impossible. Historical records, diplomatic communications and correspondence can be analyzed even though the original individuals are no longer available.

Content analysis of stories produced in response to ambiguous stimuli was chosen as a method for this study because the data are not dependent upon the respondent's ability to read or write, an important consideration. Second, many have reported that the participants shared a strong oral tradition, and it was suggested that an oral interview conducted by a trusted individual was the best means for gathering data concerning the motivational state of the participants at the beginning and after a six-month period of enrollment in the Expanded Foods and Nutrition Education Program. In addition, instrumentation existed to test several theoretical approaches to motivation.

One problem with content analysis until recently was the vast clerical requirement needed for categorizing. Someone had to do much of the coding by hand. As Holsti (18, p. 663) points out,: "Finally, content analysis usually requires skilled and sensitive coders, the very type of persons who soon become bored and frustrated by the tedious and repetitive nature of the task." Under these conditions, problems with intercoder agreement (reliability) and coder accuracy (validity) are quite serious. One recent development has alleviated these problems so dramatically that the content analytic method is enjoying a resurgance of usage. This development is the use of computer programs which are designed to reduce the drudgery of the coding process. Though obviously the use of a computer program does not lessen the researcher's need to insure validity of his procedure, the problem of differences introduced because of coder inattention or boredom are no longer important. Data are analyzed the same way every time unless there is an error in the keypunching.

Early computer programs were limited to word frequencies either organized by the word itself or by analytical categories. More recent programs allow a great deal of flexibility in the unit to be considered. With the General Inquirer programs developed at Harvard University, it is now possible to analyze data by category, by word or by other contextual units. It is now possible to examine phrases or to check for concurrence of certain categories. Dictionaries have been developed for the General Inquirer for a number of different applications. The Stanford political dictionary is based on the theoretical work of semantic differentiation (30, 31). McLaughlin (35) developed a dictionary to score responses to the question of Who Am I (WAI). Most importantly for this research, D. M. Ogilvie and Louise Woodhead of Harvard developed a dictionary that scores protocols utilizing the rules developed by McClelland for manual scoring of achievement imagery in projective test materials (35, p. 191). There are many more. One of the dictionaries that has been used in a wide variety of studies is the Harvard Psychsociological Dictionary developed at the Laboratory of Social Relations at Harvard University for studying psychological and sociological materials (35, p. 170).

The use of such tested dictionaries should increase the possibility of identifying motivational states that predispose an individual to accept educational attempts to change nutritional behavior.

The Research Instrument

When developing instruments for measuring motivation, it was imperative to find a tool which would encourage homemakers and aides to talk about themselves, their hopes and aspirations, so that a content analysis of words indicating a need for achievement (N-Ach) could be performed on the obtained data.

A variety of stimuli was piloted using an audience that closely resembled the intended population of the study. A group of High School Equivalency students from low-income and minority group backgrounds served for the first pilot testing of instruments.

First of all, a task questionnaire was administered following the suggestions of Morgan (27). They were asked, "How do you think most people would feel if a boy of theirs chose each of these types of work?" Then a list of possibilities was offered, from farm labor to professional positions. Another question was tested using the guidelines of Michel (26) from his suggestions for cross-cultural situations. An open-ended question was asked where the following behavioral choice was given.

1. I would rather get $10 right away than have to wait a whole month to get $30, or
2. I would rather wait to get a much larger gift much later than get a small one now.

Michel contends that delayed reinforcement is directly and positively related to motivation and achievement: "the ability to delay gratification is the reward value of working."

Another suggestion of Michel, piloted with this audience, was the use of the question: "Let's pretend there's a magic man, and he can change you into anything you want; what do you want to be?" The respondent is to give a one-word answer.

With the same group of people the "Who Am I?" question was asked, and the respondents were allowed to say as much as they wanted about themselves in any language that was most comfortable.

The last tool used to elicit verbal responses was a set of especially drawn pictures similar to the Thematic Apperception Test pictures. The pictures were selected with cultural and situational cues to assist the respondent in relating to the pictures, where behavior, correlated to the achievement motive might occur(22).

All responses were tape recorded and analyzed for amount and quality of responses as they relate to the use of content analysis. When the respondents were asked their opinion regarding the different methods, the majority felt that it was easier to respond to the pictures. This response concurred with the information and length of responses available on the tapes. The longest and most achievement-oriented responses were a result of the use of the pictures. They were most uncomfortable with the "Who Am I?" question. It was on this basis that the taped interview with the picture stimulus was chosen for field piloting with program aides and homemakers in the selected pilot county.

When piloting the use of the pictures with the recorders, the aides were instructed in the non-directive interview techniques, the use of the tape recorder, and how these related to the pictures. They were interviewed and had practice interviewing. The aides were then encouraged to apply these techniques with as many program homemakers as possible. After their experiences with the interviews and pictures, it became apparent that this method would work in the field with the majority of homemakers.

The Coding Rules For N-Ach

Content analysis procedures look primarily at different kinds of thematic contingencies, and an overall score is made as to whether achievement imagery is judged to be present in a story. The General Inquirer content analysis method was developed to duplicate the original hand-scoring system developed by McClelland for TAT responses. The system is concerned only with analysis of those words that are judged to express need for achievement. All other words are discarded (35).

Each story or interview is placed into one of three categories: (1) Those with achievement imagery-AI; (2) those with doubtful achievement imagery-TI; (3) or those with no achievement imagery-UI. The AI stories are further checked for subcategories. There are 14 different subcategories, which provide both a grammatical and thematic analysis.

The different categories in the achievement analysis include:

1. "Need" words, such as wants, desires, hopes, and yearns.
2. "Success" words such as fame, glory, honor, and praise.
3. "Failure" words, such as error, incorrect, mistake, ruin, and blunder.
4. Verb-positive words. This category includes activity words relating to the concept of achievement (such as doing, making, inventing, etc.).

5. Block words. Includes words that stand in the way of or "block" goal attainment.
    a. environmental obstacles such as broken, damage, crisis
    b. personal obstacles words such as confidence, ineptness, awkwardness
6. Affective-positive. Includes words that denote joy, happiness, delight.
7. Affect-negative. Tags words that express sorrow, anger, disappointment.

The following seven categories correspond to the 3 basic criteria established by McClelland. One or more of these criteria must be met in order for the document to be categorized as exhibiting N-Achievement.

I. Competition with some standard of excellence:

8. Compete. This category relates to McClelland's definition of a need achiever, as one who must compete with a standard of excellence and excel at it. Words tagged in this category suggest that the individual is excelling at a competitive activity. This category includes words such as win, gain, overtake, and surpass.

9. Adverb-Positive. This category picks up words that express a desire to do the job well and thoroughly, that is, work carefully, study thoroughly.

II. Extraordinary accomplishments:

10. Value-positive. This category refers to culturally valued goals as they relate to an achieving activity; words such as discovery, creating, and curiosity.

11. Adjective-positive. This category refers to modifiers that relate to the "extraordinary" aspects of the accomplishment; words such as great, powerful, promising.

III. Long term involvement:

12. Time. Not often a useful category, but selected to point out words such as lifetime, life, years, etc.

13. To-be. This tag defines the words to be, to become, of becoming, become, becomes, and becoming. These words are examined in relationship to other key words to provide a link in scoring achievement imagery.

14. Role-positive. This tag looks at the category of titles of various roles that are considered achieving roles in this society, such as doctor, surgeon, professor, lawyer.

There are certain category combinations which constitute the rules to be followed when the stories are scored for Achievement Imagery (AI). These patterns correspond to the three criteria defined by McClelland. To be scored as indicating achievement imagery, a story must indicate:

1. Competition with a standard of excellence:
   Rule 1. success + affect positive,
   Rule 2. failure + affect negative,
   Rule 3. verb-positive + adverb positive.
2. Unique accomplishment:
   Rule 1. value positive + verb-positive,
   Rule 2. adjective positive + value positive.
3. Long term involvement:
   Rule 1. need + to be + role positive,
   Rule 2. need + to be + adjective positive.

One last rule was added to McClelland's criteria to cover sentence patterns and sequences which contained the word success. For example, when the document contains a sequence that states that "the hero was (or would be) successful", the rule to cover this is, to be + success = AI.

Scoring for TI (Doubtful Imagery)

If a story does not fulfill the 3 categories for AI scoring as established by McClelland, but contains references to achievement, it is scored TI, doubtful imagery. Usually words tagged, Block, are also scored TI, since the tag usually shows concern with tasks. The story or document is scored TI if it contains two verbs that have been identified as Verb-positive. This usually indicates, as does the category Block, that a task activity is being conveyed.

Recipe Skill Inventory

One variable that interested the research team was the basic knowledge and application of cooking skills for both the homemakers and aides. In order to examine these skills, it was necessary to develop an instrument. In approaching this task, several suggestions by Bayton (2) helped identify the direction to be taken. First, there was a need to establish a valid definition of what constitutes an adequate performance, and second, there was a need to evaluate present methods used to satisfy performance criteria. Since much of the field work of aides with homemakers centers around the use and application of program recipes, the ability and knowledge of basic recipe skills was judged to be mandatory. At that point, the search was narrowed to finding an instrument which would examine and measure those kitchen skills which aided in successfully reproducing a recipe. A variety of available instruments were screened for applicability to the present research. Several were found which approximated the desired instrument. Shipley of Iowa State developed a checklist for "Competencies Needed by Homemaker/Health Aide" (33). This checklist included some of the skills which were of interest, but it also collected information not available to the program aide. "A Checklist for Management in Food Preparation." (15) also contained items of interest, but was not designed to be used with low-income family situations where few modern kitchen conveniences are available.

The scale most similar to that needed was the "Foods Performance Scale" developed by Gallogly (12). Many of the items were adopted for this study's inventory. The use of this particular scale in its entirety was rejected, however, due to the limited discrimination of the scaling procedure.

At this point, the team interviewed both home economists and homemakers to find out what they considered to be the most basic skills needed in order to successfully prepare a recipe. With this list, and with knowledge of program needs and limitations, combined with items from previously developed checklists, two new inventories were developed. The first inventory (RSI-1) was designed to be used by aides with homemakers for evaluating basic skills in recipe preparation. The second inventory (RSI-2) was designed to be used by supervising agents with aides for evaluating basic knowledge of abbreviations, measurements, safety procedures in the kitchen, organization, and planning of program recipe presentations to the homemakers.

The Recipe Skill Inventory designed for use with the homemakers underwent several revisions as the result of field trials. The instrument was used in beginning food laboratories at Washington State University, revised, and then tested in the pilot county. The aides were trained in the use of the RSI and they then used it in the field for several weeks. Based on preliminary intercoder agreement studies as well as comments from those who used the first draft of the instrument, certain revisions were made in the instrument.

Reliability

The Recipe Skill Inventory is a behavior checklist, and thus the accuracy with which behavior is assessed depends upon both the clarity of the instrument's categories and the effectiveness of the training procedures. The criterion measurement for reliability is the interjudge agreement among several individuals who have witnessed the same behavior after experiencing the training program.

The training program for the use of the RSI-1 usually takes about 5 hours. First, the trainer sits down with those who will use the instrument, goes over each item explaining the purpose of the item and giving several examples of behavior which would qualify for a positive score. Any questions are answered.

A recipe is prepared and observed. The RSI-1 is completed. Then the trainer goes over the answers item by item reinforcing correct responses and clarifying rules for those who have erred. A second recipe is prepared and observed. Again, the RSI-1 is completed and discussed. The importance of using the standard recipe is stressed, and the consequences of not using the standard recipe are demonstrated.

Since the RSI-1 is sensitive to the way in which it is used, continuing studies are being made during aide training sessions to insure that the instrument is being reliably used.

Some preliminary studies of interjudge agreement indicate that the range of percentage agreement is sufficiently high to indicate that the instrument is easy to understand and apply.

FIGURE 2.

Interjudge Reliability Trials

	N	Percentage Agreement
Trial 1	6	88%
Trial 2	6	82%

Reactivity and the Recipe Skill Inventory

Webb _et al_ (38) have discussed the problems which occur when research instruments influence the data collected in selected ways. Particular care was taken to design the methodology for using the RSI-1 in order to minimize the data distorting influences due to the data collection itself.

At the outset it was realized that the recipe following skills being displayed on the day that the aide is present are already biased in the direction of more attention to detail than normal. There did not appear to be much that could be done either to check this suspicion or to control possible bias developed because of the presence of the aide. However, the aides try to make the homemaker comfortable, to put her at ease, and to elicit behavior that is as normal as possible.

When it becomes necessary to collect evidence of recipe following skills by direct observation, the problem of reactivity becomes more difficult. In an attempt to not influence the homemaker unduly, the instrument was designed in such a way as to be able to be filled out by the aide, outside, after her visit. The stimulus (recipe) was standardized and the same one was used each time. The recipe was especially designed to elicit a variety of skills, such as measuring, mixing, chopping, utensil utilization, and organization. The standard recipes were published by Extension in the same format as other program recipes, and, thus, to the homemaker, the day that the RSI is taken is like any other visit by the aide. There is a recipe to prepare and the aide discusses nutritional information. The RSI is not taken on the same day as the interview. After the homemaker has prepared the recipe and the lesson is over, the aide fills out the RSI outside the home as soon as possible.

Development of the Teaching Skills Inventory

In developing the Teaching Skills Inventory (TSI), the attempt is to develop an instrument which is easy to use in the field, nonreactive in terms of distortion of the situation being studied, and which, of course, measures variables which are considered important. The development of the TSI has not progressed as far as the other instruments. As the background section indicated scales have been developed for tolerance, energy level, and warmth.

At first glance, these scales may appear as either strange or insufficient for an Inventory of Teaching Skills. However, it is important to remember the kind of teaching being conducted. There is generally just the aide and one homemaker present, though small groups of three or four are sometimes brought together. The homemaker's children are constantly present. The kitchen may or may not have the necessary basic utensils needed. Basic sanitary practices may be neglected. In this kind of setting, the aide's teaching is accomplished through a consultative, helping relationship. Thus, those interpersonal skills, tolerance and expression of warmth, plus the appearance of sufficient energy have been chosen as possibly important variables. It is clear that these skills are not ordinarily thought of as teaching skills, and yet there is some reason to hypothesize that these variables are important, and underlie successful teaching in the informal setting.

At the present time the scales have been defined and reviewed by supervising agents. The instrument has not yet been field tested, nor a training program developed to teach the necessary skill to utilize the instrument. Further, development is planned for this instrument during the final part of this project.

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EMPLOYMENT

TEACHING SKILL INVENTORY

TOLERANCE: The aid who has tolerance of a variety of life styles and value systems recognizes and includes the goals and incorporates the ideas of the homemaker in the planning and procedure of her lessons. She accepts and readily adjusts to both the physical and emotional environments of her homemaker.

	1	2	3	4	5
A. Goals and ideas of the homemaker	ignores goals & rejects ideas of homemaker	rejects some of the goals & some of the ideas of homemaker	recognizes goals but does not utilize them or include them	recognizes goals & ideas & includes some of them in the planning & procedure of the lesson	fully includes goals & ideas of homemaker in the planning & procedure of the lesson
B. Physical environment	rejects physical environment completely; cannot work there as it is; experiences or displays repugnance	rejects physical environment somewhat; does not recognize the reasons for such an environment--demonstrates some disgust--work with the homemaker is hampered by environ.	recognizes reasons for environmental situation but cannot tolerate it; still shows some disgust--works in spite of it	recognizes reasons for such an environmental situation--has made some adjustments to(or in) it--works with environment	works in complete adjustment with the environment
C. Emotional environment	rejects emotional environment completely; cannot work there as it is; experiences or displays repugnance	rejects emotional environment somewhat; does not recognize the reasons for such an environment--demonstrates some disgust--work with homemaker is hampered by environ.	recognizes reasons for environmental situation but cannot tolerate it; still shows some disgust--works in spite of it	recognizes reasons for such an emotional situation--has made some adjustments to(or in) it--works with environment	works in complete adjustment with the emotional environment

ENERGY LEVEL: An aide with an active level demonstrates vitality. She has a great deal of physical drive and perseverance.

	lethargic, lacks energy and drive	has made poor adjustment to physical problems, little energy	can adjust well to physical problems--fair amount of energy and enthusiasm	has a good amount of physical drive and perseverance	is an active person;has vitality & good health; great deal of physical drive & perseverance;is outgoing & enthusiastic

AFFIRMATION: The aide that affirms the validity of the homemaker's goals recognizes the goals and supports the homemaker's independent pursuit of them. The aide that can support independent pursuit is not dependent on the homemaker for personal gratification and stability.

	aide controls actions of the homemaker & does not allow independence on the part of the homemaker	aide controls most of the actions of the home maker, but does allow for some independence on the part of the homemaker	aide does recognize the need for some independence or autonomy of homemaker, but does not encourage independent decision making	aide supports some autonomous action, but aide only encourages some decision making or independence of the homemaker	aide affirms the goals of homemaker; supports the independent action and decision making of the homemaker

WARMTH: A warm aide expresses her warmth in a variety of ways. She is first of all attentive to the homemaker's verbal comments and feelings. She emits behaviors such as nodding, eye contact, smiling and/or replying to comments of the homemaker, etc. to indicate that she is listening warmly. She gives directions in a sensitive manner, is not dogmatic or threatening, but is patient and considers the homemaker's level of understanding. As the homemaker works, the aide expresses confidence in her abilities and helps her to succeed by reinforcing her real successes with encouragement and praise.

	The aide does not express warmth in her relationship with the homemaker. She does not demonstrate that she is listening, by incorrectly responding to homemaker's comments or by not answering questions, and by not allowing homemaker the opportunity to finish statements. Aide shows impatience and is demanding of the homemaker when giving directions. Aide always belittles homemaker's efforts & never praises or encourages her in her attempts.	Aide demonstrates all warmth characteristics to a very limited degree. Demonstrates that she is listening somewhat, but not fully. Seldom responds correctly to homemaker's comments, & seldom anwers questions, nor does she often give homemaker the opportunity to finish statements. She often shows impatience with homemaker & is often demanding in her directions. Often belittles homemaker for something poorly done, & only occasionally offers praise & encouragement when merited by homemaker.	Aide demonstrates all characteristics to an acceptable degree. Often, but not always, demonstrates that she is listening to homemaker. Often responds correctly to homemaker's comments, & will usually answer questions & give homemaker opportunity to finish statements. Does not show impatience too often nor is she always demanding of homemaker in her directions. Only occasionally belittles homemaker for something poorly done, & often offers praise & encouragement of homemaker when merited.	Aide demonstrates all characteristics in almost all situations. Nearly always demonstrates that she is listening to homemaker Very seldom responds incorrectly to homemaker's comments, & seldom fails to answer all questions. Almost never shows impatience with homemaker, & is rarely demanding when giving directions. Rarely belittles homemaker for something poorly done, & usually always offers praise & encouragement of homemaker when merited.	All of the warmth characteristics are demonstrated in all situations as described in the definition of warmth.
		OR	OR	OR	

	OR	OR	OR
	The aide demonstrates to any degree, one of the characteristics: 1. attentiveness 2. listens 3. gives directions in a sensitive manner 4. expresses confidence in homemakers 5. encourages 6. praises	The aide demonstrates to any degree 2 or 3 of the warmth characteristics: 1. attentiveness 2. listens 3. gives directions in a sensitive manner 4. expresses confidence in homemaker 5. encourages 6. praises	The aide demonstrates to any degree 4 or 5 of the mentioned warmth characteristics: 1. attentiveness 2. listens 3. gives directions in a sensitive manner 4. expresses confidence in homemaker 5. encourages 6. praises

INSTRUCTIONS FOR THE AGENT ADMINISTERING THE RSI-2 TO THE PROGRAM AIDES:

The RSI-2 is divided into 3 parts, and each part requires a different method and approach to evaluation.

PART I: On-the-job Evaluation:

1. Administration of this part is similar to that of the RSI-1, in that the responses obtained are the result of a home visitation with the aide.
2. This inventory can be filled out after one visit or a series of visits.

PART II: Abbreviations and Measurement Evaluation:

1. Part II provides for examining the aides' knowledge of specific items, such as abbreviations and measurement.
2. Part II may be administered in a group situation or to each aide individually.
3. For Part II, each supervising agent should select the following measuring utensils and label them as suggested:

1 dry ingredient cup-letter A
1/2 dry ingredient cup-letter B
1/4 dry ingredient cup-letter C
1/3 dry ingredient cup-letter D

1 cup liquid measure-letter E
1 tablespoon-letter F
1 teaspoon-letter G

Tape the letter label to each of the utensils and set them out on a table so that those taking the test can see all of the utensils.

PART III: Knowledge of Safety Practices:

1. Part III consists of the aide looking at the picture and identifying the safety hazards present. She is to circle all that she finds. There are 14. The answers will accompany the picture for the agent to use in scoring.
2. Part III may be administered in a group situation or to each aide individually.

GENERAL INSTRUCTIONS:

1. Fill out the information in the upper-right hand corner of Parts, I, II, and III, so that each part of the evaluation has identifying information.
2. Part I can be administered on any day with the homemaker except when the aide is administering the RSI-1.
3. When administering Part I, RSI-2, the agent should request that the aide use a new recipe with the homemaker.
4. Part II and III can be administered any time, either individually or in a group.
5. Score each part separately, entering the score in specified places.
6. Note that page four will be found on the back of page three.

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Number of visits to this homemaker by aide ____
Recipe ______________________________
Aide ______________________________
Supervising Agent or Assistant ______________
____

RECIPE SKILL INVENTORY - 2: Part I - for use by agents in on-the-job evaluation of a home visitation that involves a recipe preparation.

PART I

A. INSTRUCTIONS: Under each category, check those tasks completed at least once.

ORGANIZATION AND PREPARATION: The aide demonstrates behavior of assembling materials to indicate planning and supervision of planning by homemaker.

______Pre-reads the lesson sheet with the homemaker.
______Checks to see if utensil is selected or selects one herself, or helps to make appropriate substitution.
______Has recipe selected and available for preparation.
______Has all ingredients with her that the recipe calls for in sufficient proportions.
______Checks to see that the ingredients are assembled before preparation.

TRANSPORTING FOOD AND UTENSILS: The aide demonstrates healthful practices in transporting and caring for food and utensils.

______Stores perishables in a cooler or only carries foods that need to be cooled for a short period of time.
______Keeps utensils in a clean place or rinses before using them.
______Keeps lids on containers of staples that are transported.
______Can easily locate and extract all of the program food that she needs for a particular home visit from her storage facilities in her car.
______Carries only those perishables in the car that she will be using for one particular day, and the rest is stored in her home.

B. INSTRUCTIONS: Check just ONE of the following responses that the aide is most able to do.

BASIC CLEANLINESS: The aide's routine indicates sanitary practices.

______Makes no attempt to check for cleanliness in cooking area, utensils or her person.
______Some obvious attempt by the aide for personal cleanliness and cleanliness of cooking area and utensils.
______Quite clean in person, checks for cleanliness in food preparation area, with utensils and clean-up, but could use improvement in one area.
______Some attempt made in all areas--cooking area, utensils, and person.
______Spotlessly clean in all aspects.

Score ______________

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Aide ______________________
Supervising Agent ______________________

PART II

A. MEASUREMENT:

1. This recipe serves 2 people. Change the amounts of the ingredients so the recipe will serve 4 people. Write your answers on the blanks provided.

1 1/2 cups leftover meat	________ cup(s)
2 tablespoons butter	________ Tablespoon(s)
3 tablespoons flour	________ Tablespoon(s)
1 cup milk	________ cup(s)
1/2 cup leftover peas	________ cup(s)

2. Adjust the same recipe so it would serve just one person. (Divide the recipe in half.) Put your answers on the space provided.

1 1/2 cups leftover meat	________ cup(s)
2 tablespoons butter	________ Tablespoon(s)
3 tablespoons flour	________ Tablespoon(s) or teaspoon(s)
1 cup milk	________ cup(s)
1/2 cup leftover peas	________ cup(s)

3. Select and circle two of the following foods for which you would use the "dip, level, and pour" method of measurement:

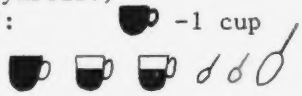
   a. milk
   b. sugar
   c. bananas
   d. chopped onions
   e. grated cheese
   f. baking powder

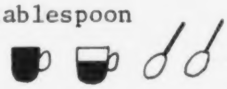
4. Which two of the following recipes would demand the most accurate measurement? (Circle two recipes.)

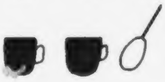
   a. carrot and raisin salad
   b. Missouri Mix
   c. fruit salad
   d. corn-beef dandy
   e. oatmeal cake

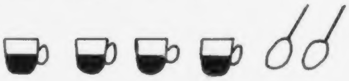
5. If you needed to measure 2 cups plus 2 tablespoons of flour, which of the following combinations would you use: (Use the KEY to help understand the symbols.)

   KEY: ☕ -1 cup 🥄 -1 tablespoon 🥄 -1 teaspoon

1. 

3. 

2. 

4. 

6. If you had only a 1/2 cup measurement, you would have to dip and level ______ number of times to measure 1 1/2 cups of flour. (Choose the right answer from the following selection and circle what you think is correct.)

   a. one
   b. two
   c. three
   d. four

B. MEASUREMENT-SELECTION OF CORRECT UTENSIL:

In front of you on the table, you will see several measuring utensils, and you will notice that each utensil is labeled with a letter. Beside each of the following measures, you are to write the letter that matches the appropriate utensil. There may be more than one combination of measurements for each blank. Choose only one combination.

Example. 1 1/3 cups of flour--The answer is A & D .

1. 1 1/2 cups flour--The answer is ________
2. 1 3/4 cups sugar -- The answer is _______
3. 1 tablespoon salt--The answer is _______
4. 1/3 cup bread crumbs--The answer is ______
5. 1/4 cup lard--The answer is ______
6. 1 cup milk--The answer is ______
7. 1 teaspoon vanilla--The answer is ______

C. ABBREVIATIONS:

1. The abbreviation c. means:

   a. cold
   b. cheese
   c. cup

2. Which of the following abbreviations represents a tablespoon? (Select two)

   a. tsp.
   b. T.
   c. t.
   d. tbsp.
   e. tab.

3. If you read that a recipe calls for 2 lbs. of meat, this means you will buy: (circle the correct answer.)

   a. 2 packages
   b. 2 pounds
   c. 2 cans
   d. 2 ounces

4. If you by 32 oz. of dried beans, that means you have:

   a. 2 lbs.
   b. 4 c.
   c. 2 qts.
   d. 4 tsps.

5. If a recipe calls for 3 oz. of cheese, you will use:

   a. 3 handfuls of grated cheese.
   b. 3 cupfuls of grated cheese.
   c. 3 ounces of grated cheese.
   d. 3 pounds of grated chesse.

Score ________________
(number correct)

Aide ______________________
Supervising Agent ______________________

PART III SAFETY PROCEDURES

EACH aide will be given a picture which shows a variety of kitchen safety problems. Each aide, on her own, should select and circle in the picture, all of the safety hazards that she can find.

Score ______________________
(number correct)

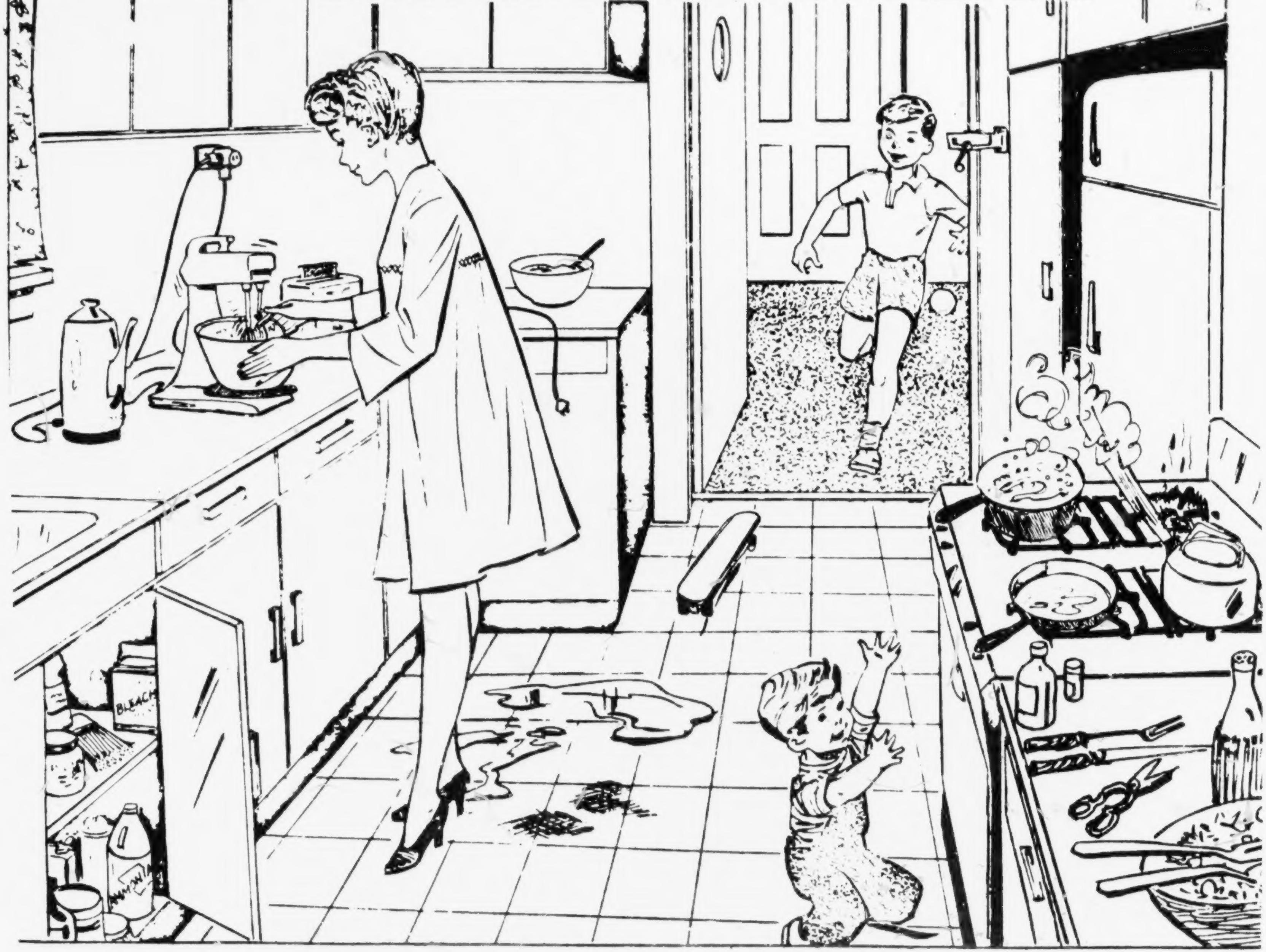
ANSWERS

1. Household cleansers under sink, within reach of little children.
2. Electric outlet overloaded.
3. Mother testing mix with finger while mixer is working.
4. Toaster cord dangling over side of counter, within reach of small child.
5. Mother's dress has wide, floppy sleeves which can be dangerous at stove.
6. Mother's high heels a hazard during houswork.
7. Water on floor can cause someone to slip.
8. Wheeled toy on floor near doorway can cause a fall.
9. Can opener juts into doorway.
10. Pot handles should be turned toward back of stove beyond reach of child.
11. Back burner lighted without pot on it.
12. Tea kettle spout should be turned toward back of stove.
13. Mother has left bottles of medication on counter within reach of child.
14. Scissors, knife and long fork are within reach of small child.

D COUNCIL ON FAMILY HEALTH

CAN YOU IDENTIFY THE DANGERS IN THIS KITCHEN?

see OTHER SIDE



WSU Cooperative Extension Service
Pullman, Washington

Family Number________________
Interviewer________________
County________________

RECIPE SKILL INVENTORY

I. INSTRUCTIONS: Under each category, check those tasks completed at least once.

a. ORGANIZATION AND PREPARATION: Demonstrates behavior of assembling materials to indicate planning.

__ sets out needed utensils
__ selects all ingredients in advance according to steps in recipe
__ makes advance preparation of ingredients (chop, grate)
__ pre-reads recipe
__ is speedy and efficient ☐

b. USE OF UTENSILS: Demonstrates ability to select and use appropriate tools for recipe and to care for them properly during and after use.

__ stores utensils in clean, dust-free place; or rinses them before use
__ selects appropriate utensil or can make substitutions
__ prepares utensils properly (grease, dust with flour)
__ re-uses utensils or uses few
__ cares for utensils properly after use ☐

c. USE OF HEAT SOURCE: Demonstrates appropriate use of oven and stove as directed by the recipe.

__ selects appropriate temperature (adjusts for equipment faults, if necessary)
__ selects appropriate burner
__ pre-heats oven
__ locates rack appropriately in oven
__ times food being cooked ☐

d. SAFETY PROCEDURES: Demonstrates practices in accident prevention.

__ keeps paper and other flammables from heat source
__ keeps her clothing from heat source
__ has safety devices available (hot pads)
__ has fire extinguisher or extinguishing compound (baking soda) near heat source
__ places handles of pots and pans on top of stove pointing inward ☐

II. INSTRUCTIONS: Each category below has 5 sentences describing skill levels of homemakers. Check the one statement that best describes this homemaker.

a. ABBREVIATIONS: Demonstrates correct application of measurements in recipe.

__ cannot use abbreviations
__ has trouble--knows they represent measurements
__ understands some abbreviations (perhaps 2)
__ seems to know almost all of the abbreviations (3 or 4)
__ can use all abbreviations accurately ☐

RECIPE SKILL INVENTORY

I. **INSTRUCTIONS: Under each category, check those tasks completed at least once.**

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__ cannot use abbreviations
__ has trouble--knows they represent measurements
__ understands some abbreviations (perhaps 2)
__ seems to know almost all of the abbreviations (3 or 4)
__ can use all abbreviations accurately ☐

b. MEASURING: Demonstrates correct application of measurements.

__ does NOT measure and cannot estimate accurately
__ does NOT measure but CAN estimate accurately
__ measures some ingredients
__ measures all ingredients, but may be careless and/or wasteful
__ measures all ingredients accurately ☐

c. BASIC CLEANLINESS: Routine indicates sanitary practices.

__ no attempt made to clean cooking area, utensils, or person
__ some obvious attempt made at cleanliness in at least one area
__ quite clean in person, food preparation, utensils and clean-up, but could use improvement in one area
__ some attempt made in all areas--cooking area, utensils, and person
__ spotlessly clean in all aspects ☐

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5/72
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TOTAL ☐

GWENNA MOSS
FOR ERIC

TESTING KNOWLEDGE ABOUT ADULT EDUCATION

Gary Dickinson
and
Nicholas A. Rubidge

Adult Education Research Centre
University of British Columbia
Vancouver

A paper presented to the Adult Education
Research Conference, Montreal, April 4-6, 1973.

ABSTRACT

A few specialized fields of practice in adult education have begun to develop standardized tests of learning outcomes but the discipline itself has not yet done so. Objective tests might be useful adjuncts to instruction about adult education as they would facilitate the determination of entry and exit behaviours of participants in both credit and non-credit programs and assist in the design of instruction. This study reports the development and application of a test of knowledge about five topical areas in adult education.

A 100-item dichotomous choice test was constructed and administered to 124 students enrolled in graduate and undergraduate courses in adult education. Three procedures were used to estimate reliability and the obtained coefficients were considered acceptable for the total instrument, questionable for four topical areas, and poor for the items concerned with the adult learner. The construct validity of the instrument was examined by relating test performance to the background characteristics of those completing the test. The chief factor influencing performance was found to be the number of previous university courses in adult education.

The utility of the instrument was explored in several credit and non-credit programs and was found generally to be a useful component of the instructional process. Significant differences were noted between pre and post measures in the majority of cases. The results of the study suggest the desireability of developing additional instruments to measure knowledge, attitudes, and skills needed for effective performance in the discipline and field of practice of adult education.

INTRODUCTION

Various specialized fields of practice in adult education have begun to develop standardized tests in order to assess learning achievement and performance by program participants. This is particularly evident in program areas such as adult basic education where there are many participants, the investment is large, and the educational objectives may be defined clearly. Standardized tests related to the discipline of adult education itself, however, are probably nonexistent. As adult education is growing rapidly as a field of study, there appears to be a need emerging for the development of instruments that could be useful in determining the level of appropriate training for adult education leaders.

This study first outlines a rationale for the development of standardized tests in adult education and then describes the construction and analysis of a test of knowledge. Factors related to performance on the instrument are discussed and its utility is explored with reference to several applications of the test.

RATIONALE

The emergence of adult education as a distinct academic discipline as well as a field of professional practice has been documented elsewhere (6, 10). The rapid growth in the number of practitioners engaged in the field coupled with an expansion in the body of knowledge about adult education has produced a growing demand both for full-time and part-time training programs pertaining to the principles and practices of adult education. This demand has been expressed at all levels in the leadership pyramid described by Houle (5) which includes full-time professional adult educators as well as part-time leaders and volunteer workers.

The growing demand for programs of preparation in adult education has led to a number of problems for those engaged in their provision. When the demand was slight and the number of students limited, it was a relatively simple matter to arrive at consensus about program content through individual counselling or small group discussion processes. With an increasing demand and a larger number of students, however, those services have become harder to provide. Moreover, the body of knowledge in adult education was small in the past compared with the current volume of substantive knowledge derived from research related to the field so that there are now more options from which content may be selected. Those factors, together with others such as increasing specialization within adult education and restrictions upon financial resources for providing both degree and non-degree programs, have compounded the problems involved in designing appropriate and effective learning experiences for adult education leaders.

Determining rapidly a starting point for education and training in adult education for individuals or groups of participants is a crucial requirement for providing useful and effective programs at all levels of the leadership pyramid. This has been done traditionally by inquiring about previous experience in the field and by attempting to identify learning needs perceived by the participants. The design and conduct of programs would be aided considerably, however, if data could be obtained quickly respecting the entry level of information possessed by the participants in relation to the existing body of knowledge about adult education. With such data in hand, an instructor would be able to adapt the program content and processes to suit the existing level of knowledge of the participants. Verner _et al_ (10) note that the development of valid and reliable instruments to measure and assess knowledge, skills and attitudes needed for an efficient performance of the tasks in the discipline and in the field of adult education is one of the more urgent tasks for future research. This study explores one small component of that task by describing the development and application of a test of knowledge about adult education.

INSTRUMENT DEVELOPMENT

Three principal requirements were established regarding the nature of the instrument which guided the stages of its development. Firstly, the test would have to be capable of quick completion and scoring so that it would not occupy an inordinate amount of time in a short training program. In order to meet this requirement, a dichotomous choice (True - False) method of response was chosen despite the known limitations of that format. Secondly, the instrument should be available in alternate forms so that it could be used for entry and exit assessments enabling the determination of change or learning concurrent with training. An attempt was made therefore to develop two equivalent forms. Thirdly, it was determined that the test should sample knowledge in several domains of adult education to explore whether the testing strategy would have broad utility. Five topical areas commonly included in adult education training programs were therefore included in the instrument; the adult learner, adult learning processes, course planning, adult instruction, and evaluation.

Construction

The test items were derived originally from reference books used commonly in adult education and from informal achievement tests used in several adult education courses. A pool consisting of several hundred items was developed and assembled in several trial versions which were administered in university credit courses in adult education as well as in non-credit workshops and short courses. Item analyses were conducted after the administration of each test and those items with a difficulty index of more than 75 percent or less than 25 percent were discarded. Comments about the quality of the items were sought from those completing each test so that the items could be edited for clarity and precision.

The final version of the instrument consisted of 100 items with twenty in each of the five topical areas. Each sub-test contained ten items in Form 1 and ten in Form 2. All of the test items were in the knowledge category of the cognitive domain analyzed by Bloom (1). Of the 100 total items 42 percent were "True" and 58 percent "False" with at least 40 percent "True" items and no more than 60 percent "False" in each sub-test and group of ten. The true and false statements were arranged randomly in order to avoid the establishment of response patterns. The complete test is reproduced elsewhere (2), but a representative item from each of the five topical areas is shown below for illustrative purposes.

> The Adult Learner: The near point of vision tends to move closer as age advances.
>
> Adult Learning: Learning to play golf is an example of learning in the affective domain.

Course Planning: An objective describes a pattern of behaviour that the learner is expected to demonstrate at the end of a course.

Adult Instruction: A lecture should last for no more than 30 minutes.

Evaluation: Test items used to measure recognition memory are easy to score but hard to construct.

Administration

The test was administered to all students participating in courses offered by the Department of Adult Education of the University of British Columbia in the 1971-72 academic year. It was completed by a total of 124 students during the first or second class meeting in September, 1971. No time limit was set but most of the tests were completed within 30 minutes. The students were informed that the test was in the developmental stage and that they need not identify themselves by name. They were asked, however, to provide information about five background characteristics including sex, age, years of experience in adult education, the number of university courses in adult education taken previously, and the number of short courses and workshops about adult education they had attended.

Of the students completing the test, 29.0 percent were enrolled in graduate courses in adult education and 71.0 percent were in undergraduate courses. Slightly more females (53.2 percent) than males (46.8 percent) completed the test. Males outnumbered females in graduate courses with 55.6 percent of the respondents but the undergraduate group contained 56.8 percent females. As Table 1 indicates, the graduate students averaged 36.2 years of age compared to 26.7 years for the undergraduates. The students enrolled in graduate courses reported more years of experience in adult

Table 1

Characteristics of Graduate and Undergraduate Students who Completed the Test

Characteristics	Undergraduate Students (N=88) Mean	Undergraduate Students (N=88) S.D.	Graduate Students (N=36) Mean	Graduate Students (N=36) S.D.	Total (N=124) Mean	Total (N=124) S.D.
Age	26.7	7.20	36.2	8.88	29.5	8.83
Years experience in adult education	0.7	2.13	4.1	4.27	1.7	3.29
Previous university courses in adult education	0.0	0.00	1.4	2.10	0.4	1.29
Previous short courses in adult education	0.6	1.76	1.6	1.89	0.8	1.85

education, a higher average number of previous university courses in adult education, and greater participation in short courses and workshops about adult education than was reported by the undergraduate students.

Results

The results obtained by the 124 students in adult education courses who completed the test are summarized in Table 2. The mean total score on the 100 items was 64.3 with a standard deviation of 9.00 and a range from 29 to 94. The mean total scores for the two forms were similar as the students averaged 32.4 on Form 1 and 31.9 on Form 2. Scores for the twenty items in each of the five topical areas ranged from 11.4 for the evaluation items to 14.1 for the adult learning section. No group of ten items had an average score less than 5.5 and none was greater than 7.7. The sub-test section and form totals correlated significantly with the total test score with coefficients higher than .60 in most cases, although the adult learner sub-test showed a lower correlation coefficient in relation to total test score than did the other sub-totals.

Reliability

Reliability of the five sub-tests and the total test was estimated using three methods; correlation between forms, the Spearman-Brown prophesy formula, and the Kuder-Richardson Formula 21. (Table 3) The results obtained from the correlation between forms, which provides a coefficient of equivalence (3), indicated that the adult learner sub-test was not reliable but coefficients for four of the topical areas ranged from .43 to .52. The reliability coefficient for the two forms of the full test was .71.

Table 2

Means, Standard Deviations, and Correlation with Total Test Score for Sub-Tests

Sub-Test	Mean (N=124)	S.D.	Correlation with Total Score
The Adult Learner			
Form 1	7.7	1.31	.41
Form 2	5.9	1.43	.37
Sub-total	13.6	2.02	.53
Adult Learning			
Form 1	6.6	1.43	.62
Form 2	7.5	1.58	.64
Sub-total	14.1	2.55	.75
Course Planning			
Form 1	6.2	1.41	.60
Form 2	6.8	1.71	.67
Sub-total	13.0	2.71	.74
Adult Instruction			
Form 1	6.0	1.53	.64
Form 2	6.2	1.51	.60
Sub-total	12.2	2.65	.71
Evaluation			
Form 1	5.9	1.71	.61
Form 2	5.5	1.60	.65
Sub-total	11.4	2.86	.73
Total Score			
Form 1	32.4	4.67	--
Form 2	31.9	5.00	--
Total	64.3	9.00	--

Table 3

Reliability Coefficients for Sub-Test and Total Test Scores

Sub-Test	Correlation Between Forms	Spearman-Brown	KR 21
The Adult Learner	.08	.14	.07
Adult Learning	.43	.60	.36
Course Planning	.43	.60	.38
Adult Instruction	.52	.69	.32
Evaluation	.48	.65	.40
Total	.71	.83	.72

Application of the Spearman-Brown formula suggested that doubling the length of the test would increase the reliability of four sub-tests into the .60 to .69 range and would increase the coefficient for the full test to .83. The Kuder-Richardson Formula 21, which provides a conservative estimate of reliability (4), produced reliability coefficients of .32 to .40 for four sub-tests and an overall coefficient of .72. In general, the obtained reliability coefficients were within an acceptable range for the total test but questionable for four of the sub-tests. The sub-test concerned with the adult learner produced such low reliability coefficients that it was judged not reliable.

FACTORS ASSOCIATED WITH TEST PERFORMANCE

The construct validity of the test was examined by relating test performance with the background characteristics of the students who completed the instrument. This part of the study was guided by three hypotheses regarding the nature of the relationship between test scores and student background in the discipline of adult education and in the field of practice. It was hypothesized that:

1. Students who had received more previous training in the discipline of adult education would obtain higher scores on a test of knowledge about adult education than would those with less training.
2. Students with more experience in the field of practice of adult education would obtain higher scores on a test of knowledge about adult education than would those with less experience.

Since the test was based on knowledge that would most likely be learned in a formal instructional setting designed to facilitate learning about the content of the discipline rather than on information that would normally be learned in the job experiences encountered in the field of practice, it was further hypothesized that:

3. Factors associated with training in adult education would be more closely related to test performance than would factors associated with experience in the field.

Variables pertaining to experience in the field of practice included age and years of experience while enrollment in graduate or undergraduate courses, participation in previous university courses in adult education, and attendance at short courses represented training in the discipline. The stated hypotheses were tested using zero-order correlation coefficients and multiple regression analysis.

The results of the analyses tended to support the first and third hypotheses but not the second. As Table 4 indicates, the number of previous university courses was the only variable showing a significant association with the total test score at the .01 level (r=.39) while the number of short courses attended (r=.18) and age (r=.20) were related to the total score for all students at the .05 level of significance. When undergraduate and graduate students were analyzed separately, none of the background factors produced significant correlation coefficients with total test score in the undergraduate group but previous university courses in adult education was associated with test performance ($r=.39$, $p < .05$) in the graduate group. A multiple regression analysis for all students using total test score as the dependent variable showed that 16.3 percent of the variation in scores was accounted for by the background characteristics of the students with the number of previous university courses in adult education emerging as the only independent variable with an F probability less than .05.

Table 4

Zero-order Correlation Coefficients between Total Test Score and Selected Variables

Variables	Undergraduate Students (N=88)	Graduate Students (N=36)	Total Students (N=124)
Age	—.09	.20	.20*
Years Experience in Adult Education	—.16	.17	.17
Previous Courses in Adult Education	.00	.39*	.39**
Short Courses in Adult Education	.07	.18	.18*

* $p < .05$

** $p < .01$

The total instrument appeared to possess some degree of construct validity in that more previous training in adult education was reflected in a higher test score. Experience in the field of practice, however, was not related to test performance. This suggests that the instrument might be a useful index of knowledge about adult education generally but can not be used in any way as an indicator of performance in the field of practice.

UTILITY OF THE INSTRUMENT

The utility of the test of knowledge about adult education was explored in several university credit courses and in non-credit workshops and short courses offered in the community. The first section of the test concerning the adult learner was discarded because of its low reliability while the remaining four sections were assembled in two alternate forms of 40 items for use as pre and post assessment devices. The tests served three principal functions in the situations in which they were used.

1. They provided feedback to the participants about their learning performance during training.
2. They provided the instructor with an index of his instructional effectiveness.
3. They enabled the instructor to demonstrate and explain a systematic approach to adult instruction.

Data respecting test performance were obtained from four groups totalling 101 participants. Two instructors each taught two groups which met for two hours per week over a period of time ranging from five weeks to six months. Test scores were analyzed using the Wilcoxon matched-pairs signed-ranks test which considers both the magnitude and direction of the difference between pairs of scores (8). As Table 5 shows, pre-test total scores in the four groups ranged from a mean of 22.4 to 24.5 out of 40 while the post-test mean totals varied from 27.6 to 30.9. In every case the post-test mean was significantly greater than the pre-test mean with respect to the total score, but five of the sixteen sub-tests did not show a significant gain. In three of those sub-tests where no significant change occurred, no instruction had been given on that topic. The results obtained from the administrations of the pre and post tests provide some additional evidence of construct validity in that there was a significant change in test performance concurrent with training.

CONCLUSION

The development and application of a test of knowledge about adult education described in this study suggests that it is both possible and useful to construct reliable and valid instruments related to the discipline. The process described herein, however, needs to be extended into other topical areas, additional levels of the cognitive domain of learning, and more sophisticated types of instruments. It may be possible ultimately to construct standarized instruments covering the full scope of the discipline of adult education, but this would depend to a considerable extent upon the further codification and organization of the body of knowledge pertaining to the education of adults. The conceptual scheme presented by Verner (9) and the concept analysis suggested by Leagans, Copeland, and Kaiser (7), for

Table 5

Summary of Pre and Post Test Results
Using Equivalent Forms

Group	Sub-Test								Total-Test	
	Adult Learning		Course Planning		Adult Instruction		Evaluation			
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Teachers of Adults (N=21)										
Mean	5.9	7.8	5.9	7.7	5.4	7.7	5.2	7.2	22.4	30.9
Wilcoxon p	< .01		<.01		<.01		<.01		<.01	
Public Health Nurses (N=24)										
Mean	5.6	7.9	5.6	7.3	5.6	5.8	6.1	6.8	22.9	27.6
Wilcoxon p	<.01		<.01		> .05		> .05		< .01	
Recreation Students (N=22)										
Mean	6.1	8.2	6.3	7.2	6.3	6.6	5.8	6.3	24.5	28.2
Wilcoxon p	< .01		<.05		>.05		>.05		<.01	
Education Students (N=34)										
Mean	6.6	8.7	5.8	7.4	5.5	7.1	5.9	6.5	23.6	29.6
Wilcoxon p	<.01		<.01		<.01		>.05		< .01	

example, are useful steps in this direction in that they attempt to organize the discipline in ways that would be amenable to the development of evaluative instruments.

The further development of cognitive testing should yield considerable benefits to those engaged in the provision of training for adult education leaders, but it still leaves untouched the perplexing problems of identifying and measuring attitudes and skills necessary for effective performance in the field of practice and the assessment of performance itself. The development of valid and reliable measures in those areas is a task that would require a concentrated research effort by those concerned with the preparation of adult educators.

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Implications of Learning Models for Adult Instruction:

A Comparative Analysis

Samuel S. Dubin

Morris Okun

Department of Planning Studies in
Continuing Education

2 Shields Building

The Pennsylvania State University
University Park, Pennsylvania 16802

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Introduction

The contribution which learning theories can make to improve classroom instruction and to generate meaningful research is indeed a very debatable topic. Educators who are critical of the inputs of psychologists often claim, and sometimes justifiably so, that when one weeds through the mass of technical jargon, one is left with a handful of common sense notions which one was cognizant of before beginning the ordeal. Yet, if a comprehensive theory of learning exists which is applicable to adults, it would be of great utility for both researchers and instructors. It would enable educators to summarize the existing data concerning the processes by which adults learn. Furthermore, it could be used to generate studies to determine the extent to which differing approaches to learning facilitate growth in cognitive and affective domains. From the standpoint of the adult instructor, a comprehensive learning model would afford the teacher an opportunity to formulate a workable rationale for instruction.

At present, no single learning theory is applicable in all educational settings. Since this state of affairs is likely to continue for some time, our only alternative, from a pragmatic standpoint, is to delineate and to compare the implications of current various learning approaches. While a comparison of the learning models will be undertaken in this paper, it should not be misconstrued as representing an evaluation. The authors have deliberately chosen not to evaluate them. Each reader must decide for himself which approach will afford him a fruitful theoretical base for adult instruction or to formulate research projects of adult learning. In a somewhat similar vein, each instructor must decide for himself which aspects of the various theories he adheres to, and synthesize them into a rationale which he can subsequently utilize as a guide to his own instructional undertakings.

In order to set the stage for enumerating the implications of each learning theory as well as for their comparison, a brief description follows of the principal points of the learning theories and of several prominent learning models.

OVERVIEW OF LEARNING THEORIES*

The positions which are currently adhered to among learning theorists can be divided into the following three principal orientations: (a) Behaviorism: Behaviorists concern themselves with the observables of behavior, namely stimuli and responses. Strict behavioristic doctrine avoids any speculation about what is going on in the mind. (b) Neo-Behaviorism: Neo-Behaviorists also include stimuli and responses as the only valid indicators of behavior, but they also consider what happens between the input of stimuli and the output of responses in terms of mediational processes. (c) Cognitivism: Cognitive psychologists deal with man as a rule forming being and the cognitive structure of the individual is considered to be of paramount importance for learning.

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*This section of the paper as well as the last section have been adapted from Le Francois (1972).

SELECTED LEARNING THEORIES APPROPRIATE FOR ADULT INSTRUCTION

In this section, eight learning theories and three technologies of instruction will be described. The implications of each theory for adult instruction will be indicated.

Skinner, B.F. (operant learning)

Skinner (1938, 1953, 1958) deals chiefly with those behaviors which are NOT evoked by any known stimuli but which are simply emitted by the organism. Thus, he is focusing on the link formed between the response and the reinforcement. Stimuli function to mark the occasion upon which the behavior can or will occur. When stimuli act in such a fashion, they are known as discriminative stimuli. Skinner's operant learning model can be presented as follows:

Operant Learning Model

1. Response $\xrightarrow{\hspace{4em}}$ Reward and S^D
2. $S^D \xrightarrow{\hspace{5em}}$ Response

(S^D = discriminant stimulus)

Specific Implications of Skinner's Theory for Adult Instruction

Most of the implications of Skinner's theory deal with the necessary arrangement of stimuli and responses for modifying behavior. Behavior modification techniques are currently being used to change behavior is a multitude of contexts including: (a) employer-employee relations, (b) study habits of students, (c) training of nurses and

(d) behavior therapy. Skinner points out that in the early stages of training it is essential to reinforce every desired response and to do so immediately following the responses. Once learning has proceeded as expected, the schedule of reinforcement may be changed to a variable ratio schedule. He also notes that great care must be taken to develop an appropriate arrangement of the desired responses. The establishment of convenient secondary reinforcers is also a necessity because of the numerous limitations on having to always provide an individual with primary reinforcement. With regard to the elimination of undesirable responses, Skinner advocates that the most effective method is to NOT reinforce the response rather than to punish the individual for making the response. Since Skinner views the teacher as the arranger of stimuli, he feels that the instructor must share the responsibility for the responses of the students.

Hull, C. (drive reduction)

Hull (1943) developed a set of postulates in order to build a general theory of behavior. Drive reduction is an essential component of his theory. He believed performance was a function of drive, reinforced practice, incentive, and intensity of the stimulus. Furthermore, he believed that inhibition of responses occurred with too frequent use and that this inhibition itself could be conditioned.

Specific Implications of Hull's Theory for Adult Instruction

While Hull's theory was not directly concerned with education, his theorizing is still relevant. He maintains that the first step in learning is to identify and eliminate competitive responses. These responses are tendencies to react which an instructor would consider inappropriate. Furthermore, the teacher should not be content with teaching one solution to a problem but instead, whenever possible, should introduce a variety of techniques for solving problems. Learning, for Hull, involved a rearrangement of responses within a habit-family hierarchy such that when the individual is presented with a stimulus, the 'correct' answer is the most dominant member of that particular habit-family hierarchy. He also pointed out the importance of determining the relative need for practice at each step in a sequential act and implementing differential practice until all parts of the task are equally well learned.

Hebb, D. (neuro-physiological model)

Hebb (1949) attempts to explain the processes that intervene between stimuli and responses by utilizing neurological hypotheses. The basic tenent of his theory is that mediation (activity between input of a stimulus and output of response) consists of activity in a group of nerve cells known as a cell assembly. Whenever there is activity in a group of cell assemblies labeled phase sequences, then mediation is presumed to occur also. The implication of Hebb's work for adult learning involves capitalizing on the previous experiences of the adults who have a myriad of experiences at their disposal when attempt is being made to teach new tasks.

Specific Implications of Hebb's Theory for Adult Instruction

From Hebb's theory it is clear that it is necessary for the individual to have the relevant sensory experiences in order to succeed at scholastic tasks. It also follows that when the background is lacking to insure adequate achievement the first job of the instructor is to have the individual engage in experiences which will provide him with the necessary prerequisite information or skills. He also implies that the instructor should analyze a skill or lesson into its component parts and teach each one separately. Furthermore, the training of learners in the use of mediational devices, whenever possible, is a worthwhile strategy which can aid the learner's progress.

Bandura, A. (social learning)

One of the fundamental means by which new modes of behavior are acquired and existing patterns are modified is by observational learning. This type of learning may be involved in behaviors ranging from learning to talk to hijacking airplanes. Observational learning is then concerned with learning by imitation of a model. Bandura (1969) contends that we learn to imitate because we are reinforced for such behavior. Furthermore, through mediational processes people can "imagine" reinforcement consequences and the behavior of models without experiencing them directly (vicariously).

There are three implications of this theoretical framework for adults: (1) a teacher may be thought of as a model which will influence the behavior of his students. Also the model does not necessarily have to be an older individual or one who is specifically involved in the same field of interest. (2) a model may not be an actual person but rather books, pictures, and films. These latter models are referred to as symbolic models. (3) modeling techniques may be useful in the alteration of attitudes. Exposure to a series of models who are held in high esteem may lead to a change in attitude.

Implications of Bandura's Theory for Adult Instruction

Bandura believes that a person can acquire skills, knowledge, and attitudes without being directly involved in the learning process. He feels that we often learn by watching others. Therefore, it becomes necessary to expose the individuals to a wide range of alternatives which would include opinions, attitudes, philosophies, and people, so that they can decide for themselves who would be a suitable model.. The instructor should use the wide array of symbolic models at his disposal because they can be very effective. Social learning can be used to modify behavior in the following contexts: (a) clinical settings, (b) employer-employee relations, (c) acquisition of skills, and (d) changing of attitudes. An example of social learning is the employee who aspires to ingratiate himself with his boss. A common tactic in such a situation is to imitate the dress, mannerisms, and behaviors of the employer,which essentially represents modelling behavior.

Gagne, R.M. (learning systems)

Gagné (1965) is concerned with the management of the conditions of learning. He has developed a hierarchical conceptualization of eight different types of learning, ranging from S-R bonds to problem solving. He believes that one cannot master more complex material learning tasks until the fundamental elements have been learned. For example, one cannot learn to respond to things or elements as a class (concept learning) until one can distinguish those objects which are an instance of the class from those which are not (discrimination learning). Therefore, it can be concluded that Gagne is opting for implementation of task analysis procedures.

Gagné (1968) has indicated that a system of adult learning should differ from a system of learning for children in terms of (a) acquiring basic skills, (b) organizing knowledge, and (c) stimulating productive thinking.

Specific Implications of Gagné's Theory for Adult Instruction

Gagné points out the importance of doing a task analysis. This is necessary so that the instructional sequence parallels the hierarchy of knowledge in any given area. His eight types of learning delineate the importance of simple associations for the development of more complex learning abilities. He also points out the need for a wide variety of experience that enhances the mediational capabilities of the individual which can then become essential in problem solving and concept types of learning commonly associated with cognition. Gagné also advocates that instructional objectives be specified for each unit of instruction. He also recommends that each learning situation be assessed by informal discussion and formal tests modes. This represents an important source of feedback for the instructor as well as the learner.

Bruner, J. (discovery learning)

Bruner (1966) assumes that whenever we interact with the world we utilize categories. Categories are formed and used in such processes as perception, decision making, and conceptualization. The arrangement of related categories to hierarchies is referred to as a coding system. The most generic category is placed on top (i.e., learning occurs via the inductive process) whereas specific categories form the base. Categorization is assumed to reduce the complexity of the environment, making possible the recognition of objectives, to eliminate the necessity for constant learning, and to permit the individual to go beyond the information provided. Based upon his theoretical framework, Bruner (1966) advocates the use of a discovery approach in schools. Discovery learning occurs when the student is not presented with subject matter in its final form, but rather is required to organize it himself.

Specific Implications of Bruner's Theory for Adult Instruction

Bruner advocates an inductive approach to learning; that is, the learner builds from specific categories to generic codes which form a coding system. It follows intuitively that the function of generic codes is dependent on training in diverse situations which leads to the development of larger categories and increases the classifing ability of the learner. With regard to the sequence of instruction, he feels that we should present material which progresses from being based on motoric processes to iconic processes, and finally to symbolic processes. Bruner also feels that educated guessing should be encouraged and that a spiral curriculum is the most effective means of arranging material for the learner, who should be assuming more responsibility for learning as his knowledge grows.

Ausubel, D. (reception learning)

Ausubel (1968) has developed an expository approach to instruction in which cognitive structure is the central construct. Cognitive structure consists of more or less organized and stable concepts (ideas) which are embedded in the learner's mind. Ausubel introduces the notion called subsumer to define a concept or an idea which includes other ideas and concepts. Subsumption is said to occur when meaningful material is incorporated into the cognitive structure. Learning then occurs when material is derived from preexisting structure and when material which is an extension of previous knowledge is involved. Forgetting occurs when material is no longer dissociable. According to Ausubel, one of the key variables involved in meaningful learning is how the material is organized. An advanced organizer is a complex set of ideas or concepts that is given to the learner before the material is presented.

Specific Implications of Ausubel's Theory for Adult Instruction

According to Ausubel, the teacher must organize material in a form which will be meaningful to the students. In order to accomplish this, the teacher should use various kinds of organizers. He also emphasizes the need for the learner to possess the proper cognitive structure prior to the commencement of the new material. This involves assessment of the cognitive structure and preparation by the learner whenever it is deemed necessary by the instructor. He also points out that teaching which highlights similarities and differences between new and recently learned material will lead to greater retention.

Ausubel advocates a deductive model for instruction which involves starting with a global approach and then integrating specifics. Journal articles represent an illustration of this approach. The abstract preceeding the research article can be viewed as a kind of organizer for the reader who then proceeds to read the detailed specifics of the article.

Rogers, C. (self directed learning)

The humanistic viewpoint states that an individual's real world is his phenonmenal world (what he perceives) and thus he, alone, can fully know it. Maslow (1954) contends that self-actualization is the last need to be met in a hierarchy of needs which he has proposed. Rogers (1969) contends that man acts purposively with his basic tendency being to actualize, maintain, and enhance the experiencing organism. Based upon his philosophy and theorizing, Rogers supports student-centered teaching in which the role of the instructor is facilitating learning. Such a technique, however, will work only with individuals who already have complex and flexible minds. This too is implied in Maslow's hierarchy of needs; if the individual does not have his basic needs met, he will never be ready or able to self-actualize. The role of the teacher, as conceptualized by Rogers, involves being a good listener and interacting in a genuine, accepting, and empathetic manner with the learner.

Specific Implications of Rogers' Theory for Adult Instruction

The instructor must listen to students and convey a sense of truly being interested in what they say. Furthermore, by paraphrasing the statement made by the students, the instructor indicates an understanding of what has been said and facilitates communication between the other students. Rogers also indicates that individual differences should be welcomed and cultured in order to maximize the creativity of the individual. He also feels that students should share the responsibility for the content and format of the course and that the development of self-evaluative individuals is a primary goal of education. This involves letting the student participate actively in the ongoing evaluative process. Furthermore, criticism by the instructor should be constructive and meaningful so that it permits the student to grow.

Harvey, O.J., Hunt, D., and Schroder, H. (conceptual systems) Theory of Personality Development

Harvey, Hunt, and Schroder (1961) propose a developmental theory of personality which has relevance for adult instruction. According to their conceptual systems approach, their best procedure for inducing individuals to progress towards greater complexity and flexibility is to match the stage of personality development with the training environment. In order for the training environment to increase flexibility and complexity, it must extend the individual's current mode of behavior without demanding too much from the party. If we look at the classroom, we can specify at least three features which are relevant: (1) teacher, (2) students, and (3) methods of instruction. These three features can greatly affect the learning process when we look at their interaction.

Miller, G. (curriculum paradigm)

Miller (1967) has proposed a model for the continuing education of physicians which can be readily transfered to the continuing education of all adults. He makes an eloquent plea for changing the focal point of curriculum from the traditional content model to a process model. In the content model, the subject matter is broken down into specific, structured material. After the material is presented, the instructor hopes the learner can apply what he has learned. Such a model has failed to yield the desired results, according to Miller. Instead, he opts for the process model in which the learner engages in continuing self-education.

Dubin, S.S. (updating model)

A model has been produced by Dubin (1972) and Dubin and Cohen (1970) to account for the psychological and work environmental factors affecting updating. Their model utilizes a hierarchial dual-factor approach involving: (1) motivation and (2) organizational work climate. The motivational factor is the key component of the model. McClelland and Winter's (1969) theory of achievement motivation is also relevant beca because individuals who are highly motivated concern themselves with activities that require skill and excellence in performance. By definition achievement refers to competition with a standard.

The second factor proposed by Dubin and Cohen is organizational climate which can be thought of as a multidimensional factor, comprising five components: (1) organizational practices, (2) supervisory behavior, (3) on-the-job problem solving, (4) colleague interactions, and (5) management philosophy.

Comparison Among Learning Models

In order to facilitate the comparison of the learning theories discussed in this paper, two tables were constructed. Table 1 presents a descriptive comparison of the theories in terms of (1) orientation, (2) central constructs, (3) conceptualization of the role of the instructor, (4) amount of structure associated with model and (5) conceptual systems level which is appropriate. The amount of structure refers to the extent to which the process of instruction is controlled by the instructor. The conceptual level indicated is based upon the attempt to match the personality development of the student with an appropriately structured environment. Table 1 has a number of blank spaces because the learning theorist did not attempt to relate his model to the instructional process. Table 2 compares the learning theories with regard to their implications for instruction. These implications have been enumerated for the purpose of highlighting the similarities and differences between learning theories. Also, it points out the relevancy of each theory for adult instruction.

Table 1

A COMPARATIVE ANALYSIS OF LEARNING MODELS

Learning Theory	Name of Model	Exponent	Key Concepts	Role of Instructor	Amount of Structure	Appropriate Conceptual Level
Behaviorist	Operant Learning	B.F. Skinner	Reinforcement Shaping	Behavior modifier	High	Low
Neo-Behaviorist	Drive Reduction	Clark Hull	Habit-family hierarchy Drive			
Neo-Behaviorist	Neuropsychological	Donald Hebb	Cell assemblies and phase sequences Mediation	Source		
Neo-Behaviorist	Social Learning	Albert Bandura	Imitation Vicarious learning; Symbolic models	Model and Promoter	High	Low
Neo-Behaviorist	Human Engineering	Robert Gagne	Task analysis Hierarchical categories of learning	Manager of conditions of learning	High	Low
Cognitivist	Discovery learning	Jerome Bruner	Categorization Coding systems	Promoter (?)	Moderate	Moderate
Cognitivist	Reception learning	David Ausubel	Advances organizers Subsumers Cognitive Structure	Disseminator of information	High	Low
Humanist	Self-Directed Learning	Carl Rogers	Self-actualization Phenomenological field	Facilitator of knowledge	Low	High

TABLE 2

IMPLICATIONS OF MODEL FOR INSTRUCTION

THEORIST	
B.F. SKINNER	(1) Do not use adversive stimuli.
	(2) Do not reinforce undesired behavior.
	(3) In the early stages of learning reinforce every desired response. Once learning is proceeding as expected, switch to a "VR" schedule.
	(4) Reinforce immediately, especially in early phases.
	(5) Establish convenient secondary reinforcers that are facile to employ at any time.
	(6) Extinguish undesired responses by witholding reinforcement.
	(7) When shaping the behavior of individuals, develop very carefully the hierarchical arrangement of responses.
	(8) When the student fails, share the responsibility.
Clark Hull	(1) As a first step in learning, identify and eliminate competitive responses.
	(2) Introduce a variety of techniques for solving problems.
	(3) Determine the relative need for practice at each step in a sequential act and implement differential practice until all parts of the task are equally well learned.
	(4) Consider learning as a rearrangement of responses within a habit-family hierarchy such that when the individual is presented with a stimulus, the correct answer has become the most dominant response in that particular habit-family.
Donald Hebb	(1) When the background for adequate achievements is missing, supply the background before worrying about achievement.
	(2) Analyze a skill or lesson into components and teach the components separately.
	(3) Whenever feasible, train learners in the use of mediational devices.
Albert Bandura	(1) Expose individuals to a wide range of alternatives so that they can decide for themselves who are appropriate models.
	(2) Utilize many types of instructional devices since symbolic models are very effective.
	(3) Do not necessarily require the student to perform in order to learn.

TABLE 2 - Cont'd.

IMPLICATIONS OF MODEL FOR INSTRUCTION

THEORIST	
Robert Gagne	(1) Make the instructional sequence parallel the hierarchy of knowledge in any given area. (2) Make instructional objectives specific. (3) Assess the learning situation in informal and formal modes as an important source of feedback for the instructor as well as the learner.
Jerome Bruner	(1) Utilize a spiral curriculum whenever possible. (2) Encourage educated guessing. (3) See that instructional sequence progresses from enactive to iconic to symbolic. (4) Generic codes are likely to develop when training is diverse. (5) As instruction proceeds, encourage the student to assume more responsibility for learning. (6) Use inductive approach; build from specific category to a coding system.
David Ausubel	(1) Organize material in a form which will be meaningful to the students. In order to accomplish this, use various kinds of organizers. (2) Recognize that the more distinct the new information is from the already learned material, the greater the dissociability of the material (i.e., it will be retained longer). (3) Make sure that the learner is ready to learn. This means that the individual's cognitive structure must be assessed beforehand so that material is introduced at the appropriate level. (4) Use deductive model: start with global approach and integrate specifics.
Carl Rogers	(1) Interact with students in a genuine, accepting and empathetic manner. (2) Expect and respect individual differences among learners. (3) Take into account the individual needs of the pupils; see that students share the responsibility for the content and format of the course. (4) Develop self-evaluative students, and when critizing the adult, do so in the form of constructive suggestions.

INTEGRATIVE DISCUSSION OF LEARNING THEORIES

Whether a given psychologist will prefer some form of an S-R theory or a cognitive theory of learning depends partly on the kind of learning in which he is interested. On the one hand, a psychologist interested in studying the formation of habits will probably find a S-R interpretation more to his liking. On the other hand, a psychologist interested in studying the process by which man solves complex problems will most likely tend toward a cognitive interpretation.

The learning theories discussed in this paper expose different, and sometimes conflicting, explanations of behavior. However, there are some very broad points of agreement which can be easily overlooked. All S-R and cognitive theorists agree that stimulus-response relationships are complex and that learning requires identification of the relevant stimuli in a complex field. They also are in agreement concerning the existence of individual differences. Both orientations acknowledge that individuals differ in their capacity to recognize or discriminate relevant stimuli and that the task has to be appropriate to and within the range of competence of the person. Furthermore, with regard to the capacity of individuals to make the required response, the two positions concur that whatever the individual's response repertoire may be, stimulus conditions may be arranged to increase the probability of the occurrence of the desired response relative to alternative responses. The S-R and cognitive theories both maintain that motivation initiates and directs behavior and that it leads to particular responses which are directed toward achieving a specified goal. Too, excessive motivation is disruptive for the learner because it prevents him from clearly perceiving the complex of stimulus-response relationships. Finally, both orientations agree on the necessity of the learner's recognizing whether his response is appropriate and modifying the response whenever it is inappropriate. This involves taking into account his previous experience.

The chief distinction between the behavioristic position adhered to by Skinner and the neo-behavioristic positions of Hull, Hebb, Bandura and Gagné is that the latter theorists have incorporated mediational processes into their theories. By doing so, these theorists can account for more complex kinds of learning such as concept formation. With regard to their specific implications for instruction, the implications of Skinner do not, for the most part, conflict with those of the neo-behaviorists. One instance in which there is disagreement, however, is the necessity of the learner being active in order to learn. Bandura has proposed that learning can occur without the learner directly performing the response. However, even in this case, the learner must still be active in some sense(i.e., he must be paying attention to the model.) Within the neo-behavioristic orientation, there is general agreement of the need for varied experience with the material to be learned. The position represented by Bandura can be differentiated from the other neo-behavioristic positions in that social learning attempts to provide insight into the means by which novel response acquisition occurs while the other theories have been concerned largely with the question of response performance. Hull, Hebb and Gagné all stress that the teacher must determine, prior to instruction, the hierarchy of responses which are deemed necessary for the learner to be successful. The cognitive position can easily be differentiated from the behavioristic one in terms of its concern for man's ability to transform stimuli, process information and represent external events internally in the form of cognitive structure. The distinction between the neo-behaviorists and the cognitivists are not as great, but the neo-behaviorists use mediation only as a hypothetical construct to link observable events. There is certainly some disagreement between Bruner and Ausubel concerning the most effective means of instruction within the cognitive orientation. One of the major differences between the two approaches concerns the arrangement of material. Bruner believes that material should be arranged hierarchially with specific facts at the base of the hierarchy. Ausubel, in direct contrast, espouses the introduction of general concepts before the learning of specifics. The second issue of which the two theorists differ concerns the organization of material. Bruner advocates permitting the learner to organize material for himself by discovery techniques while Ausubel opts for a controlled presentation of material in its final form.

The rapproachment of these two positions begins with the acknowledgement that they are not necessarily mutually exclusive. Research suggests that expository techniques favor rapid learning and longer retention (Craig, 1965; Haslerud and Myers, 1958; Wittrock, 1963) whereas discovery facilitates transfer (Guthrie, 1967). Ausubel himself (1969, pp. 483-484) concedes that discovery methods may be advantageous under certain conditions: (1) for teaching in the early grades, (2) for testing meaningfulness and problem solving, (3) for ensuring transferability and (4) for establishing intrinsic motivation.

CONCLUSION

It would be extremely helpful if we could provide the reader with some closure with respect to which theory of learning has the most potential for research and instruction in adult education. Unfortunately this is not possible. Each theory is able to account, in a relative sense, for certain phenomena and unable to account for others. Learning theorists themselves, have in recert years (except for Berlyne, 1965) foregone attempts to formulate macro theories of learning. Instead, the trend has been toward micro theories--theories which scope include a limited number of phenomena.

It is a further concern of those associated with adult education that a theory of learning be tailored to account for differences between the adult and other learners. Yet the differences between the adult learner and other learners have not been delineated to any great extent. The principles of learning are assumed to apply, with minor variations introduced, to the adult. Until these differences, if in fact they do exist, are determined the formulation of learning models which have implications primarily towards adults is not possible.

Though the problem of how can one implement the implications of learning theories is beyond the scope of this paper, it becomes a large and distressing problem for many adult instructors. The issues to which principles of learning are applicable, in what contexts should they be used, and with what type of student, remain open questions. Thus it appears that there are two distinct questions to which adult education researchers should presently address themselves to: (1) What are the differences between the means by which adults and others learn? (2) How can we operationalize the implications of learning theories into classroom practices?

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A NEW DIMENSION IN PROGRAM DEVELOPMENT THEORY*

> "A man becomes more and more a free and responsible agent the more he, at all times, knows what he is doing in every sense of the phrase, and the more he acts with a definite and clearly formed intention."
>
> Stuart Hampshire in Thought and Action[1]

Introduction

Few people in adult education would quarrel with that bit of philosophy espoused by Hampshire. In fact we really say the same thing when, in our more philosophical moments, we argue that it is "meet and right" to involve our clientele in program determination. However, just as John Dewey's philosophy of progressive education and learner involvement was misinterpreted by curriculum planners in formal education, it is the position of this paper that adult educators have similarly misinterpreted the concept of clientele involvement in program planning. One senses from the literature of adult education curriculum development that failure to involve groups of local citizens in a laborious analysis of "the situation" for the purpose of identifying "the relevant needs" is, in fact, not a proper planning process.

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[*] G.M. Farrell, paper presented to Adult Education Research Conference, April 4-6, 1973, Montreal, Quebec.

For example, Boyle,[2] in an attempt to synthesize a process of program development from existing research, identified the organization and maintenance of a client planning group as one of the phases in the process. Aleshire[3] in a comprehensive discussion of viewpoints on citizen participation in community development, and the costs and benefits thereof, concludes that such planning requires the participation of citizens. Rohfeld,[4] in a recent issue of Adult Education, argues for client involvement in program planning as the process ingredient which can prevent the molding of the learner to the educator's own concept of society.

There are three basic premises which underlie the concept of client involvement in program development.[5]

1. More accurate decisions regarding the relevant needs and opportunities upon which Extension programs should focus will be arrived at when lay people are involved in making those decisions. The notion here is that people, when provided with the real facts of the situation, will identify the more critical problems with which they are faced.

2. The involvement of citizen representatives will speed up the process of change among people. The assumption

being that those who are involved will aid in diffusing and legitimizing subsequent educational programs.

3. Involvement in curriculum development is a learning experience. Participants in planning committees should be better informed and better prepared for active leadership in the process of change.

Of these three premises, however, many writers suggest that involvement for the purpose of identifying the more relevant needs and opportunities is paramount. According to Vandeberg:[6] ". . . the primary purpose of any planning is first and foremost that of developing a sound, defensible and progressive course of action--a plan. In the process followed, many other benefits might accrue -- such as the education of participants--but we want a plan that can and will be used."

The Problem

No one would dispute the notion that the end result of any planning effort ought to be a sound, defensible and progressive plan. However, not everyone agrees that involvement of clientele is the only way that the goal can be realized. The virtual universal commitment of adult education organizations to this philosophy has led to frustration, inefficiency and often ineffectiveness on the part of many "front line" practitioners of adult education. Bruce[7] suggested two hints of evidence to support this analysis. One is that some recalcitrant Extension workers have for years carried out successful programs without engaging in formal planning at all. Secondly, as we work with new areas of subject matter and new audiences, and, as our old audiences become more sophisticated and specialized, we are finding that old procedures and concepts of program planning do not always provide an efficient basis for devising workable programs.

Brower,[8] in his analysis of the philosophic dilemma of adult educators, presents a rather clear picture of the alternatives. He identifies four approaches to curriculum development. The academic approach in which professional authority is primary; the grass roots approach in which the learner primarily makes the curriculum decisions; the education-for-reality approach whereby the professional and the learner are mutually involved in developing the curriculum; and the propaganda approach in which curricula are developed by a third party, excluding both the learner and the professional. An example of this would be the adult education programs of various agencies or organizations who are promoting or selling their particular ideas or vested interests.

There is ample evidence to suggest that the answer to this dilemma does not lie entirely in one approach versus all others. Consider, for example, the number of "canned" curricula, planned entirely by professionals, that have met with abject apathy on the part of clientele; or the studies[9] which show that problems identified by citizen planning groups are sometimes identified without any basis in terms of the social and economic facts of the community. Whale and Boyle[10] suggest that limited rationality should be an anticipated result from group planning unless the professional is willing to expend much more effort in training and working with lay planning groups than has been the case so far.

This is not to argue against involvement from the point of view that the learner should understand the basis for educational programs that may affect his life. However, it is the purpose of this paper to question the position that this is always best accomplished by involving the clientele as members of program planning committees.

An Alternative Perspective

Perhaps one of the errors made by the pundits of program planning literature, and indeed the underlying research effort, has been the "channel visioned" attempt to identify the curriculum development process rather than processes. In many ways the approach to date has been analagous to the early efforts of social scientists to define leadership using only personality theory--failing to recognize that the context within which leadership occurs has an important effect on who can and should play a leadership role.

The assumption that the best plans are those in which local people have been involved in identifying needs and opportunities appears to have channeled our efforts into a search for: 1) criteria by which local people can be selected who will be effective planners, and 2) ways in which citizen committees can more effectively function as problem-solving groups. The possibility that in a given situation involvement of local people through a process of group problem-solving may not be only inefficient, but also an inaccurate process for determining curriculum focus, has received little attention. Again this is not to argue against involvement, but rather to raise the question of involvement for what purpose? The importance of this question cannot be overstated for it has a direct implication for those responsible for curriculum development in terms of who should be involved and the process of their involvement.

For example, if we do in fact decide we must have citizen involvement in order to know the relevant needs, the required process model is that of group problem-solving. This has specific implications for the type of citizen who should be involved and for the role of the professional. On the other hand, if the purpose of involvement is that of gaining acceptance and legitimation of the curriculum, the relevant process is that of communication--again with important implications for the procedure of citizen involvement. If the purpose of involvement is that it be an educational experience, the process becomes one of establishing a learning experience. There is evidence that involving local people for purposes of problem-solving does not necessarily result in their learning about either the process or their community.[11] This suggests that if involvement is to be an educative experience it requires a deliberate effort on the part of the adult educator.

What is required then is some basis for making decisions regarding the purposes of citizen involvement. It is our position that this basis lies in an analysis of the nature of the planning task--the problem area within which a curriculum is to be developed--rather than a philosophic statement about the "goodness" of democratic decision-making.

Toward a Typology of Planning Tasks

Much of the present theory of the process of curriculum development appears to have originated from research in the area of group dynamics--particularly the work of Bales[12] and his associates on group problem-solving. Adult educators, primarily those in Co-operative Extension, have prescribed this as standard operating procedure without regard to the nature of the planning task confronting the group. This practice fails to consider other relevant findings from this same body of knowledge. For example, it has been clearly demonstrated that group problem-solving is superior to individual problem-solving only under certain task conditions: (1) those which are complex, thereby allowing for gains due to division of labor, and (2) those in which individual decisions are subject to random error so that collective decision-making tends to reduce error through cancellation.[13] It seems entirely reasonable to suggest that not all problem areas which confront program planners are constant in terms of these variables.

Several small group researchers have commented on this point. Hoffman[14] has suggested that, until a taxonomy of task problems is developed, further investigation into the nature of group problem-solving is unlikely to be very fruitful. Some authors have made attempts in this direction. Fiedler[15] attempted to operationalize four criteria for the classification of group tasks. These included: (1) decision verifiability--the degree to which the correctness of the solution can be demonstrated objectively; (2) goal clarity--the degree to which task requirements are clearly stated or known to the group; (3) goal path multiplicity--the degree to which there are many or few procedures available for performing the task; (4) solution specificity--the degree to which there is one rather than an infinite number of correct solutions. Fiedler used these criteria to develop an index of group task structure. High task structures were defined as those for which: 1) decisions can be verified with objective data; 2) goals are clear; 3) the number of alternative procedures for performing the task are limited; 4) the number of "correct" solutions is limited. Generalizing from his findings one can suggest that citizen involvement in the form of group decision-making is less important under conditions of high task structure since the opportunity for division of labor and error reduction is much lower than is the case with low structure tasks.

There is evidence also that business management planning is beginning to recognize the relevance of the nature of the planning task for the process which is followed. Delbecq[16] has suggested a model involving three decision-making procedures. (1) Routine decision-making in which the problem is clear and the need is for highly specialized inputs of information in order to arrive at a solution. (2) Creative decision-making whereby decisions evolve quite apart from the expertise of the specialist. In this situation, an objective basis on which to make decisions is lacking. Therefore, the opinions and the ideas of the group become all important. (3) Negotiated decision-making involving opposing factions, generally brought about by conflicting opinions regarding ends or means or both. In the context of curriculum planning one can suggest that citizen involvement for the purpose of need identification is less important in the first instance and much more important in the latter two situations.

Maier[17] has suggested that there are two aspects to any decision: (1) its purely objective or impersonal attributes, which he defines as the quality aspect, and (2) its attractiveness or desirability to persons who must work with the decisions--the acceptance aspect. The first depends upon objective data (facts in the situation); the second on subjective data (feelings which are in people).

According to Maier, problems can be examined with respect to the degree in which quality and acceptance are implicated. Problems classified as Q/A (quality prior) are those for which effective solutions can be arrived at on the basis of objective data. Acceptance, although still important, is of secondary concern and may be gained in several ways: (1) imposition of the decision; (2) using the legitimate and/or referent power basis of the person(s) making the decision; (3) utilizing a persuasive approach by explaining the virtues of the decision; (4) using a participative approach which encourages discussion of the decision(s) in order to develop understanding of the reasons for the decision. A/Q (acceptance prior) problems are those for which objective data are either not available or not helpful in making effective decisions. In such instances, the subjective input (feelings, values) of those to be affected is the primary input and can only be obtained through active client involvement in the planning process.

The essential point for curriculum development theory is that some typology for classifying planning tasks is needed in order to make valid judgments about the purpose and process of citizen involvement in program planning. This seems especially necessary as the clientele of adult education organizations becomes more and more heterogeneous. As this occurs, the variability of the program planning tasks confronting agents also increases. In this context, a theory of program planning which continues to view the planning task as a uni-dimensional variable makes little sense.

An Alternative Theory

The foregoing discussion suggests that the particular task which confronts a decision-making group should be viewed as a random variable. In other words, tasks vary in terms of the inputs required to arrive at decisions that are of high quality and acceptability. As was pointed out, two major sources of variability are: (1) the degree to which decisions can be based on objective data; and (2) the specificity of the problem in terms of the range of alternative solutions it affords.

In light of these arguments, an alternative theory of program development should meet two major objectives. First, it should provide a set of criteria for discriminating among various types of planning tasks. Second, it should provide a basis for determining the most appropriate roles of the various parties involved in the program development process (e.g., the professional adult educator, the client, the subject matter specialist, etc.)

The model shown in Figure 1 is an attempt to meet the first of these objectives.

	Limited Range of lternatives	Wide Range of Alternatives
Objective Data Base	Criteria 1. Identification of learning needs can be based on factual data. 2. The range of alternative learning experiences that would meet identified needs is limited. Type A planning tasks	Criteria 1. Identification of learning needs can be based on factual data. 2. The range of alternative learning experiences that would meet identified needs is wide. Type B planning tasks
Subjective Data Base	Criteria 1. Identification of learning needs must be based primarily on the subjective ideas and opinions of clientele. 2. The range of alternative learning experiences that would meet identified needs is limited. Type C planning tasks	Criteria 1. Identification of learning needs must be based primarily on the subjective ideas and and opinions of clientele. 2. The range of alternative learning experiences that would meet identified needs is wide. Type D planning tasks

Figure 1. A Theoretical Model for the Classification of Planning Tasks.

Discussion

The model shown in Figure 1 attempts to utilize the two major sources of planning task variability previously identified. For example, some planning tasks clearly lend themselves to a need identification process based on available objective data such as social and economic statistics and agricultural projection records. Other planning task situations do not--either because the situation does not lend itself to quantitative analysis or because such information is not available (e.g., time and cost factors prohibit its collection and analysis).

The second variable in the model refers to the range of alternative learning experiences that can potentially be provided in order to meet the needs identified. Two major constraints define this variable. The first is the degree to which the solution to a problem (need) is clear because of known information. In other words, once the need is identified, it is possible to "prescribe" the required learning experience because of existing knowledge. The second constraint is the degree to which the programming agency is free to provide various kinds of learning experiences. For example, the policies and/or the resource base of a given agency may preclude the feasibility of meeting a broad range of needs.

In more specific terms, the model provides a theoretical frame of reference for distinguishing among four types of planning tasks. Type A tasks are those for which learning needs can be identified on the basis of objective, factual data. Further, the kind of learning experience(s) required to meet needs can be prescribed precisely on the basis of existing knowledge. For example, an adult educator responsible for planning educational programs that improve agriculture production, can, with specialists' input, analyze current practices and productivity and make comparisons with what "should be" on the basis of existing knowledge. It may be determined, for instance, that learning experiences designed to change cultural practices are required. A community public health educator may well encounter many similar planning tasks in which the diagnosis of need and the prescription of the educational solution are possible through an objective analysis of the clients' situation and consideration of known cause and effect relationships.

Type B planning tasks are those in which a broad range of needs can be described through objective analysis as can the range of learning experiences which would meet those needs. However, what the adult educator lacks in this planning task is an objective basis for deciding on the priority of needs. Consider, for example, a poverty worker responsible for the design and implementation of an educational program in the inner city which would improve the overall quality of life for people in that community. With the assistance of appropriate subject matter specialists, it is possible to analyze the situation and describe a number of needs relating to economic opportunities, health care, education, homemaking skills, etc. It is also possible to describe the range of learning experiences which would meet such needs. The problem is however that neither the adult educator nor the subject matter specialists have an objective basis for determining priorities among these needs.

Type C planning tasks differ from type B in two major ways. First, the range of needs and alternative learning experiences that can be considered by the adult educator is much more constrained. Second, within the range of needs and learning experiences that can be considered, there are no objective data available to assist in identifying the specific needs for which programs should be developed. Examples of the kinds of constraints that the adult educator often encounters include: agency instructional resources, agency policy, agency finances and granting policies of senior governments. A specific example of a type C planning task might be an adult educator working for a community board of education. She may find that board policies, the instructional resources available to her program, and the nature of the granting policies of senior governments dictate that the range of educational needs which can be considered is limited to those which can be responded to through formal upgrading classes. However, there are no objective data available to decide whether grade ten math is a greater need than grade nine social studies. Those decisions must be made on the basis of the perceptions of the individual clients.

Type D planning tasks are perhaps the easiest to conceptualize. In many respects this type of task is the one from which we have generalized the principle that client involvement, through planning committees, should be a constant ingredient in the planning process. This type of task is characterized by the fact that there are virtually no constraints on the range of needs and alternative learning experiences that should be considered. Further, there are no factual objective data available to the adult educator to permit him to play a directive role in need identification (at least at the outset). Perhaps the most common example would be the adult educator faced with evolving the educational component of a total resource development plan for a community.

It should be recognized that the classification of planning tasks is a dynamic problem--not a static one. In other words it cannot be assumed that the nature of the planning task remains constant after initial classification.

At the outset, for example, a planning task may be quite abstract and general. According to the model criteria, it would be classified as a type D task. However, as the planning process proceeds, the task may become more specific with existing data becoming a relevant input. The adult educator responsible for the process should be sensitive to task changes since these have implications, in theory at least, for all parties involved in the planning process.

Roles in Planning

The availability of an objective data base on which to determine needs, coupled with the limited range of learning experiences which would obviously meet such needs, suggests that in type A task situations, the establishment of a client planning committee to perform these functions would be redundant. The adult educator and subject matter specialists, can perform these functions on the basis of the factual data available. Acceptance of the program may be gained through an educational process designed to develop an understanding of the basis for the needs identified and the learning experience(s) that will take place.

Type B tasks also permit the adult educator and subject matter specialists to play a directive role in terms of identifying alternatives for program emphasis. However, they lack an objective basis for placing priorities on those alternatives. In this situation client groups may be initially established as a learning group. The adult educator provides learning experiences designed to develop an understanding of the various alternatives. In latter stages of the planning process, however, the group function becomes that of making decisions among those alternatives.

The subjective nature of type C tasks suggests that the program clientele are the primary data source for the identification of program needs. However, it should not be assumed that the establishment of client planning committees is the most efficient and effective means of obtaining this input. For example, the constraints defining the range of alternative learning experiences may permit the adult educator to identify and priorize specific needs through a checklist or cafeteria programming approach. Given the individualized nature of the need decision, it is doubtful if a client committee could accurately reflect needs in any case.

The subjective opinions of clientele also constitute the primary data source for identifying needs relating to type D planning tasks. The wide range of alternatives afforded by this type of task suggests that clientele involvement through small group decision-making would be the most efficient and valid means of determining program focus. In this case need identification and program legitimation occur through the same process.

A parting word

The foregoing notions should not be interpreted as an argument against the concept of citizen involvement. They should be interpreted as underlining the need for adult educators to ask the questions "why" and "how." Further, it should be re-emphasized that the planning task classification model, and the suggested roles of parties involved in the planning process, should be regarded as theoretical propositions. The point on which we do not hedge is that these are critical research questions for adult educators. Hopefully, their investigation will permit all of us to involve our clientele in a more meaningful way during the process of developing "sound and acceptable" educational program plans.

Footnotes

[1] Hampshire, Thought and Action. p. 177.

[2] Boyle, The Program Planning Process. p. 31.

[3] Aleshire, "Planning and Citizen Participation - Costs, Benefits and Approaches," Urban Affairs Quarterly, June 1970, pp. 369-393.

[4] Rohfeld, "Critique," Adult Education. Vol. XXIII, No.2, 1973, pp. 144-146.

[5] Pesson, "Extension Program Planning with Participation of Clientele," in H.C. Saunders (ed.) The Co-operative Extension Service. p. 101.

[6] Vandeb g, "Guidelines to Planning." Journal of Co-operative Extension. Vol. III, No. 2, 1965. p. 79.

[7] Bruce, "Extension Program Planning with Participation of Clientele," in H.C. Saunders (ed.) The Co-operative Extension Service. p. 101.

[8] Brower, "Dilemma of Adult Educators," Journal of Co-operative Extension. Vol. II, No. 2, 1964, pp. 115-116.

[9] Boyle, The Program Planning Process. p. 45.

[10] Whale and Boyle, "Group Decision Making," Journal of Co-operative Extension. Vol. IV, No. 2, 1966. p. 114.

[11] Lacy, "The Effects of Involvement on the Participants in Co-operative Extension Program Planning in Waupaca County, Wisconsin."

[12] Bales and Strodtbeck, "Phases in Group Problem Solving," in Cartwright and Zander (eds.) Group Dynamics Research and Theory. p. 624.

[13] Collins and Guetzkow, A Social Psychology of Group Processes for Decision-Making. p. 20.

[14] Hoffman, "Group Problem Solving" in Berkowitz (ed.) Advances in Experimental Social Psychology,

[15] Fiedler, "The Contingency Model: A Theory of Leadership Effectiveness," in Proshansky and Seidenberg (eds.) Basic Studies in Social Psychology. p. 541.

[16] Delbecq, "The Management of Decision-Making Within the Firm: Three Strategies for Three Types of Decision-Making," Academy of Management Journal. Vol 10, No. 6, 1967, p. 329.

[17] Maier, Problem Solving Discussions and Conferences. chpt. 2.

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MOTIVATIONAL FACTORS OF ADULT LEARNERS IN A DIRECTED SELF-STUDY BACHELOR'S DEGREE PROGRAM

Stanley M. Grabowski

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at the
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April 4-6, 1973

Purposes

The purposes of this study were: 1) to identify the existence and nature of clusers of reasons given by adults for enrolling in a directed self-study bachelor's degree program; 2) to test the relationships between, on the one hand, identified variables of adult students' sex, age, marital status, level of income, kind of employment, previous college experience, and, on the other hand, identified clusters of reasons for enrolling in such a program; 3) to compare the reasons for enrolling in such a program by those who have withdrawn from such a program with those who have completed, or are still continuing in such a program.

The Hypotheses

The following eight null hypotheses were tested in the present study:

1. There is no significant difference among factor scores in preferences of one choice over another selected by adults as reasons for enrolling in a directed self-study bachelor's degree program.
2. There is no significant difference between adult men and women for each of the motivational factors for enrolling in a directed self-study bachelor's degree program.
3. There is no significant difference for each of the motivational factors selected for enrolling in a directed self-study bachelor's degree program by marital status.
4. There is no signifivant difference among age groups for each of the motivational factors for enrolling in a directed self-study bachelor's degree program.
5. There is no significant difference between the employed and unemployed for each of the motivational factors for enrolling in

a directed self-study bachelor's degree program.

6. There is no significant difference between adults who have had previous college credit experience or not, for each of the motiviational factors for enrolling in a directed self-study bachelor's degree program.
7. There is no significant difference for each of the motivational factor for enrolling in a directed self-study bachelor's degree program by level of income.
8. There is no significant difference for each of the motivational factors selected by adults who have withdrawn from such a program, or who have completed, or who are still enrolled but inactive, or who are still actively participating in a directed self-study bachelor's degree program.

Subjects

The total population of 269 adults enrolled in the directed self-study bachelor's degree program at University College, Syracuse University, was used in this investigation.

A two-part self-administered questionnaire was mailed to each person enrolled in the program at Syracuse University from the program's inception in 1966 through May 1971. Part one was an instrument to obtain demographic data; part two was a 70-item instrument, adpated from one used by Paul Burgess, to obtain reasons for enrolling in a directed self-study bachelor's degree program. One hundred and eighty usable questionnaires were received, constituting a 69.1 per cent return rate.

Characteristics of Respondents

Of the 180 respondents, 123 or 68.3 per cent were men, while 57 or 31.7 per cent were women. Tables 1 through 7 show the distribution of subjects by various aspects of demographic data.

TABLE 1

DISTRIBUTION OF SUBJECTS BY AGE GROUPS

Age Group	N	Per cent
25 and under	10	5.6
26-30	27	15.0
31-35	33	18.3
36-40	28	15.6
41-45	33	18.3
46-50	30	16.7
51-55	11	6.1
56 and over	8	4.4
Total	180	100.0

TABLE 2

DISTRIBUTION OF SUBJECTS BY MARITAL STATUS

Status	N	Per cent
Single	27	15.0
Married	137	76.1
Widows/ Widowers	2	1.1
Divorced/ Separated	14	7.8
Total	180	100.0

TABLE 3

DISTRIBUTION OF SUBJECTS BY OCCUPATIONS

Occupation	N	Per cent
None	20	11.1
Mechanical	18	10.0
Computational	9	5.0
Scientific	24	13.3
Persuasive	54	30.0
Artistic	5	2.8
Literary	7	3.9
Musical	0	0
Social Service	28	15.6
Clerical	13	7.2
General Labor	2	1.1
Total	180	100.0

TABLE 4

DISTRIBUTION OF SUBJECTS BY INCOME

Income	N	Per cent
Less than $5,000	15	8.3
$5,000 to $9,999	51	28.5
$10,000 to $14,999	42	23.3
$15,000 to $19,999	32	17.8
$20,000 to $24,999	19	10.6
$25,000 and over	20	11.1
Missing	1	0.6
Total	180	100.0

TABLE 5

DISTRIBUTION OF SUBJECTS BY YEAR OF ENROLLMENT

Year	N	Per cent
1966	33	18.3
1967	24	13.4
1968	36	20.0
1969	39	21.7
1970	48	26.7
Total	**180**	**100.0**

TABLE 6

CURRENT STATUS OF SUBJECTS IN THE PROGRAM

Status	N	Per cent
Completed, obtained degree	20	11.1
Still actively participating	80	44.4
Still enrolled, but inactive at present	30	16.7
Withdrew from program	50	27.8
Total	180	100.0

TABLE 7

NUMBER OF PREVIOUS CREDIT HOURS

Credit Hours	N	Per cent
None	50	27.8
1 - 20	42	23.3
21 - 40	29	16.1
41 - 60	27	15.0
61 - 80	16	8.9
81 -100	10	5.6
Over 100	6	3.3
Total	180	100.0

DATA ANALYSIS

The data were analyzed using the IBM 370-155 computer. The Alpha Analysis of Educational Motivation Data was used to determine the adequacy of the 70 items or reasons which appeared on the data-gatherine instrument. Once the 50 adequate items were determined, a simple loading oblique rotation was used to determine what clusters or factors would emerge.

Seven interpretable factors, or clusters, emerged from the 12 factor solution. A factor was considered to be interpretable if there were at least two reasons each with a factor loading of .400 or greater. Only seven factors met the criteria established.

The names given to the seven identified factors were: The Desire to Know; The Desire to Reach a Personal Goal; The Desire to Take Part in Social Activities; The Desire to Reach a Social Goal; The Desire to Escape; The Desire to STudy Alone; and The Desire for Intellectual Security. Table 8 shows the variance accounted for by each of the seven interpretable factors, the variance accounted for by the five noninterpretable factors, and the total variance of the 12 factors.

TABLE 8

THE FACTORS AND THE VARIANCE ACCOUNTED FOR

Factors		Variance
I.	The Desire to Know	21.8%
II.	The Desire to Reach a Personal Goal	11.4%
III.	The Desire to Take Part in Social Activities	6.4%
IV.	The Desire to Reach a Social Goal	6.0%
V.	The Desire to Escape	5.2%
VI.	The Desire to Study Alone	3.8%
VII.	The Desire for INtellectual Security	2.5%
	Seven factor total	57.1%
	The variance accounted for by five noninterpretable factors	12.2%
	Twelve factor total	69.3%

To test the hypotheses, the following statistical tests and techniques were used as necessary: t test, F ratio, INtraclass correlations, and cell means.

Findings

There was a significant difference found between adult men and women as to motivational choice for enrolling in a directed self-study bachelor's degree program, with women showing a greater tendency than men to enroll because of the desire to know and the desire to study alone.

There was no significant difference found between marital status and reasons for enrolling in a directed self-study bachelor's degree program.

There was a significant difference among age groups as to reasons for enrolling in a directed self-study bachelor's degree program, with a greater tendency to enroll for the desire to reach a personal goal among the younger respondents.

There was a significant difference found between the employed and unemployed respondents as to motivational choices for enrolling in a directed self-study bachelor's degree program, with a greater tendency among the unemployed to enroll for the desire to reach a social goal.

There was a significant difference between adults who have had previous college credit experience or not, as regards motivational choices for enrolling in a directed self-study bachelor's degree program, with a greater tendency on the part of those who did not have previous credit course experience to enroll for the desire to escape and for the desire to know. There was no significant difference regarding motivational choices for enrolling on the basis of the number of previous college credits.

There was a significant differences in choices selected for enrolling in a directed self-study bachelor's degree program by level of income, with a greater tendency to have enrolled for the desire to reach a personal goal, for the desire to reach a social goal, and for the desire to study along, the lower the level of income.

There was no significant difference in motivational choices selected by adults who have withdrawn from such a program, or who have completed, or who are still enrolled but inactive, or who are still actively participating in a directed self-study bachelor's degree program.

A METHODOLOGY
FOR THE DEVELOPMENT OF AN
IDEAL HIERARCHICAL POSITION-CENTRIC
ROLE MODEL

Dr. John A. Kiesow
Oregon State University Extension Service
Corvallis, Oregon

Adult Education Research Conference

Montreal, Canada

1973

A Methodology for the Development of an Ideal Hierarchical Position-Centric Role Model

The Extension Service, like many other organizations designed to serve the social needs of people, faces a myriad of challenges. These challenges are mainly the result of rapid societal change. Conspicuous among these is the need to seek out and test new staffing patterns to facilitate serving the expanding needs of a contemporary clientele. Shortage of professional staff and increasing demands from all segments of society lend urgency to this task. A prominent and plausible solution, advanced for many of the social work fields, including the Extension Service, is the use of paraprofessionals.

It was in this context that a study was carried out designed to construct an ideal role model for youth program assistants. However, the central issue of this paper will be to focus on the research process used to develop an ideal hierarchical position-centric role model.

The Problem and Purpose of the Study

The Extension Service cannot rely on graduate-level personnel to fill all 4-H - Youth staff positions. Two factors are paramount. First, youth agents are encumbered with repetitive and routine tasks that do not require professional expertise. This makes it difficult to recruit and retain professionals. Secondly, the great thrust to secure economic adequacy and greater social participation for the entire population has made it necessary to expand the efforts of the Extension Service.

Organizations exist to accomplish certain goals and objectives which are realized through the interacting behavior of its members. This leads to the positions and roles that must be played. If one is to add a new position, that of program assistant, then he must become concerned with the role of the new position in relation to the existing positions. In most Extension youth staff models this includes the professional staff members and volunteer leaders. What is needed, then, is a clear role definition for each position in the context of a teamwork approach to programming.

Presented by Dr. John A. Kiesow, Associate Professor, Oregon State University Extension Service, Oregon State University, Corvallis, Oregon 97331, at the Adult Education Research Conference, April 1973.

The relationship then of the youth agent, program assistant and volunteer leader in the 4-H - Youth program will be crucial to program effectiveness. They represent a team, each contributing his part to attainment of organizational goals. To accomplish this a clear delineation of the roles of each team member must be established. As the program assistant takes over more of the old role of the 4-H agent, the professional will become freer to be innovative, to experiment and to develop new programs and relationships.

Thus, a team approach is necessary and the youth agent must hierarically move up in his role tasks, permitting the new team member (program assistant) to fill the void. This approach will allow time for innovations to meet new program needs as well as providing for essential needs of the volunteers to continue their important function in direct education of youth.

In summary, the major focus of the study, from which this research process will be reported, was the construction of an ideal role model[1] for the paraprofessional youth worker, i.e., the program assistant for the Extension Service. Guided by role theory concepts, the model was developed for the program assistant as an intermediate position. The conceptual approach was to view the position as the middle position of a hierarchical county and/or geographic area youth staffing model which includes youth agents, program assistants and volunteers. Basic to the delineation of role model tasks were the current and prospective youth program needs for an effective program for the 70's.

A second purpose was to test the model with a limited number of youth agents and volunteers in North Carolina.

Background and Related Research

Due to the newness of paraprofessionals in Extension, it appeared appropriate to look at several social work organizations for insights and relevant research as a base to guide the formulation of the ideal role model for program assistants. Objectives of this effort were to gain a general overview of paraprofessionals, their relation to program, need for paraprofessionals, methods of utilization, relationships with organizational workers, and implications for organizations.

This review led the researcher to conclude that perhaps the most productive and efficient way to develop a job description for program assistants is in terms of a role theory approach. Emphasis should be placed on functions and tasks. This approach begins with the agency and its goals and objectives. From there it works downward to the identification of the functions and individual roles (tasks) required to implement the agency program.

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[1] The tasks that should ideally be included in the role definition or job description of a program assistant.

One implication, already noted, is that the role of the program assistant must be built in relationship to other roles and the total organizational program needs. Further implications from the review are that professionals should devote more of their time to educational activities, assessment of needs, and program supervision. Program assistants should be utilized to assist in program expansion and outreach to new audiences. And finally, the volunteer should be involved in handling more of the organizational and operational aspects of the youth program.

Conceptual Frame of Reference

Since this study dealt with the structuring and functioning of the Extension youth program and the relationship of program assistants working cooperatively with youth agents and volunteers, role theory provides a directive conceptual schema for analysis.

A basic question was whether the program assistant role model be of the existential type (developed by the participants in the social system), or should it be the constructed type (developed by the social scientists). The researcher found support for and selected the latter typification system. The rationale for this approach rests first with the newness of this position and lack of knowledge by system participants. Secondly, rapid changes in an expanding and innovative youth program make it difficult for many participants to delineate a realistic role model to meet current program needs.

Role theory is based on the assumption that individuals do not behave in a random manner. Rather, they are influenced to a high degree by their own expectations and of those in the social system in which they are participants. Individual behavior, then, is in large part a function of expectations. Positions provide one basis on which expectations may be assigned to individuals.

A major advantage of role analysis is that a search for roles, counter roles, and expectations incumbent on the position of youth program assistant can lead to an orderly way to view Extensions's youth program. This type of study can reflect to the investigator possible areas of conflict and problems of interaction.

In this study the term position was used to denote the location of youth program staff at the county and/or geographic area. The position of program assistant, in relation to the counter positions of youth agent and volunteer, served to locate the actors in the system of the Extension youth program.

Role was defined as a set of expectations applied to an incumbent of a particular position. The present investigation was concerned with the delineation of functional tasks for the program assistants viewed as a focal position. The functions were derived from the youth program goals, with the role tasks for program assistant being assigned in relationship to the two counter positions--youth agent and volunteer.

The concept of role expectations was viewed as a logical approach to guide the researcher in thinking about what tasks might be appropriate for the constructed ideal role model. Role tasks were used in the study to develop the activity that would be expected in each functional area for the program assistant. The degree of appropriateness was studied from the standpoint of the counter positions of youth agent and volunteer.

Role conflict was considered to guide the development of a role model with a potential for high consensus. Role consensus is essential so the youth staff can be of maximum service to their clientele. Differences in consensus were used to signal places where variability in role incumbents' attitudes, values, or other personality characteristics may account for different role expectations. In these cases role expectations may need to be changed, or role incumbents may need additional training so they understand and accept the present roles of the various system positions.

The program assistant role must be built so the average incumbent to this position can learn to identify with the role and learn to perform it. Through this learning process the role occupant's chance for satisfaction in the role will be enhanced, and organizational effectiveness will be increased.

Of special importance to this analysis was the fact that a particular position has two aspects which must be considered. These are:

1. The relational specification of positions.
2. The situational specification of positions.

For this study a hierarchical position-centric model was used in the development and analysis of the program assistant role model. This model included youth agent, program assistant, and volunteer as diagramed in Figure 1.

The researcher developed the position of program assistant as the second position in the hierarchical youth program staff model. The rationale was to hold the volunteer position at its present level, moving the youth agent upward in the hierarchy. The program assistant will fill the intermediate position. This approach appears valid due to the increased role tasks in the youth program.

Essentially the employment of program assistants will add a new hierarchical level, as well as create a new position. Therefore, differences in expectations must be identified and efforts made to resolve them if program assistants are to make maximum contributions toward organizational goals. Effectiveness can be greatly increased when each position occupant knows,understands, and accepts his role and the roles of those with whom he interacts.

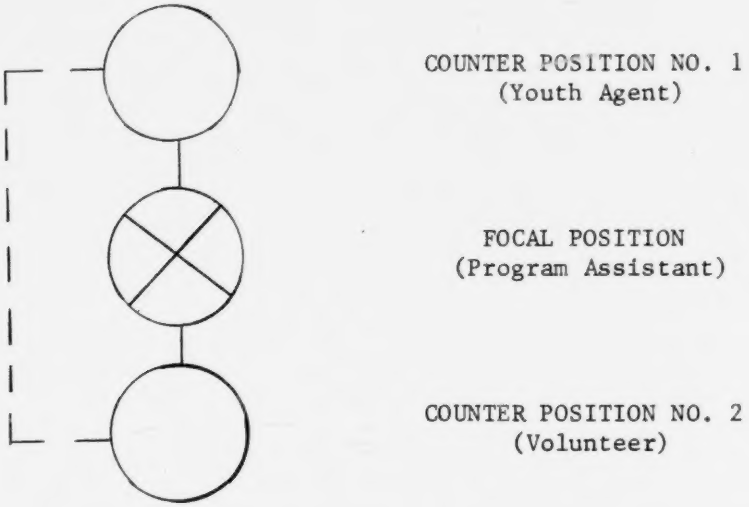

Figure 1. Position-centric model for youth program assistant (Adapted from model developed by Gross[2] et al., 1958, p. 54)

Research Process

Six major procedural steps were employed in the development and testing of the ideal role model. These steps will be described briefly below and some samples of instruments used presented to further amplify the research process used in this study.

Step 1

The first goal of the researcher was to establish a base for a viable youth program in the 70's. This was done by reviewing key reports which project current and potential Extension youth program needs. Of special interest were Extension role studies that have developed job descriptions and roles of youth agents and volunteers.

In addition, because of the newness of this position to Extension, it was reasoned that a review of paraprofessional involvement in other social work fields would be helpful. An ERIC search was run using relevant descriptors and those citations which had promise of yielding supporting information were reviewed. Much of the New Careers literature was included.

This action accomplished two research tasks. First, it helped the researcher finalize his research process, and secondly, it identified many potential tasks for the new position of program assistant.

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[2] Gross, N., W. S. Mason and A. W. McEachern. 1958. Exploration in Role Analyses Studies of the School Superintendency Role. John Wiley and Sons, Inc., New York, New York.

Step 2

To gain concrete data regarding actual roles of program assistants, the 4-H - Youth Division of the Extension Service, USDA, was contacted for assistance. The researcher spent a week in Washington, D.C., reviewing studies and interviewing staff regarding programming and staffing. A survey made during 1971 had indicated that 1,986 4-H aides had been utilized in 1970 4-H programs. Arrangements were made for the researcher to have some in depth interviews in West Virginia, where program assistants were being utilized.

An interview schedule (see Sample A) was developed to assist in collection of information for task analysis. Supported by the publication, Task Analysis,[3] which was sponsored by the New Careers Training Laboratory, an effort was made to look at the roles played by youth agents, program assistants, and volunteers "as now exists" and "as should be" if they could operationalize the program as they thought it should be. In each county visited all three position occupants were interviewed, i.e. agents, program assistants, and volunteers. Twenty-one interviews were completed.

Step 3

From the above outlined steps the researcher developed and listed approximately 300 potential tasks that could be a part of a county youth program worker's job. Criteria growing out of literature reviews guided the work of selecting tasks appropriate for program assistants. These criteria were as follows:

1. That the Extension Service must have a dynamic, relevant and flexible youth education program geared to helping youth reach their serious developmental needs in today's society.

2. That professional staff must consider their first priority audience--youth program assistants and volunteers--who are trained to carry out educational activities with the members.

3. That youth program assistants will work under the supervision of the county and/or geographic area 4-H - Youth development agent.

4. That task analysis is a valid and systematic way of determining functions and tasks included in a given job or position.

5. That a task is a separate and distinct part of a function requiring some activity (physical or mental) related to a specific purpose. That to the extent possible tasks will be described in behavioral terms to more clearly depict what activity is to be performed to accomplish the task.

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[3] Jackson, Vivian C. 1971. Task Analysis: A Systematic Approach to Designing New Careers Programs. New Careers Training Laboratory, New York University, New York.

6. That it is necessary to identify tasks essential to conduct a 4-H - Youth program for county and/or geographic areas, and then assign role tasks to youth agent, program assistant and volunteer based on these three positions of workers--working as a team to provide leadership for the total youth program.

7. That the program assistant role model must be a realistic description (most program assistants can perform or readily learn to perform), recognizing there will be a wide variation in background and entry level skill.

8. That role tasks will need to be written at a specific level, recognizing respondents will be asked to evaluate the appropriateness of the tasks. Thus, the role model will not be exhaustive, but rather will be limited to a representative sample of critical tasks.

9. That most of the tasks are seen as lying on a continuum. All three positions of workers may relate to the same task, but at various levels.

10. That the role model must provide for a viable position that can yield job satisfaction to the role incumbent.

Another procedure used in developing the ideal tasks was the development of functional categories for the role model. A function was defined as: A group of tasks which are similar in nature. When the job description is expressed in behavioral terms the subject matter within a functional area may change, but the behavior will be similar. A function, therefore, may include several individual tasks.

The functional categories used for the present study were based on a conceptual schema for planning, implementing and evaluating task-oriented organizations that function in a voluntary setting (Boone _et al_.).[4] The functions and their definitions are listed below.

Maintenance--Activity directed toward the support, supervision and renewal of the organization.

Needs--Activity directed toward needs identification and analysis related to target audience.

Planning--Activity directed toward decision making in selection of objectives and organizing learning activities.

Execution--Activity directed toward implementing, mobilizing, and monitoring the teaching learning process.

Evaluation--Activity directed toward measuring the effectiveness of the programming function in bringing about change.

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[4] Boone, E. J., R. J. Dolan and R. W. Shearon. 1971. Programming in the Cooperative Extension Service: A Conceptual Schema. Misc. Extension Publication 72, The North Carolina Agricultural Service, Raleigh, North Carolina.

Applying the above criteria and using the functional categories, the researcher selected 81 tasks and in a second review narrowed the model to 61 tasks. Developing Job and Position Descriptions in the Cooperative Extension Service (Lavery et al., 1965) was most helpful in the final writing of tasks. The tasks were written with action verbs which would connote the behavioral activity needed to carry out the task. This was done in order to facilitate putting the tasks into a completed job discription which could be made even more specific by quantification.

Step 4

In an effort to further improve the role model, a selected panel of 15 members were asked to rate each task as acceptable, or not acceptable, using a specially designed evaluative instrument (see Sample B). Also the panel rated the functional assignment of each task. These ratings were done after careful orientation was given to the entire panel regarding the researcher's theoretical base, criteria, and functional category definitions.

Validity was substantially enhanced by the use of the panel, which was made up of Extension staff and adult educators from national to county level. Included were administrators, educators and program specialists. County workers included Extension agents, volunteers and nutrition aides. With panel assistance, a 50 task model was developed which was felt to provide an adequate representative sample of the critical tasks in each of the five functional categories.

Step 5

Following the development of the constructed ideal role model, the tasks were used in the development of a mail questionnaire for the purpose of testing appropriateness of tasks--as viewed by youth agents and volunteers. When respondents marked a response as inappropriate, they were then asked to indicate to whom they would assign the task. (see Sample C)

Step 6

Responses were machine tabulated to determine relative importance assigned to each task in total and by positional group. The major objective, however, was to determine degree of consensus on role model tasks between youth agents and volunteers. Interpositional consensus was also studied by functional category. A further check was made to determine if the variables of tenure, education, size of program, or location (rural or urban) would influence degree of consensus within a positional group.

Findings

In general, tasks were assigned a high degree of relative importance for the 50 task ideal role model. Respondents, based on a combined mean score, rated the tasks 4.10 on a five point Likert-type scale. Analysis by positional group showed that youth agents had a mean score of 4.05 for all tasks, contrasted to a total mean score of 4.15 for volunteers. This similarity of rating demonstrated a high level of consensus on relative importance and strong support for the overall role model as being appropriate for program assistants.

There was no significant difference between respondent groups on degree of consensus on the importance of 39 out of the 50 tasks studied. Fifteen percent of the respondents felt that eight of the tasks should not be a part of the role model. When tasks were grouped and summed by functional category, there was a low degree of consensus between respondents on relative importance in all but the maintenance category. The selected variables of education, tenure, size of program and location exhibited negligible association with degree of consensus.

Conclusions and Implications

A role study for a new organizational position has great pragmatic value for organizational goal attainment. Cooperation and effectiveness among workers, in a large part, are dependent upon an understanding and acceptance of the roles of each organizational member. Moreover, role expectations must be congruent with overall organizational goals if an organization is to achieve a viable program. Role analysis is seen as a useful orientation to the study of expected behavior of a particular position in the Extension organization. It was found that expectations can be studied, analyzed and described in terms of tasks.

Building an ideal role model for a new positional group of workers, i.e., researcher built as opposed to expectations of present organizational workers, is one efficient way to work toward institutional change. To the extent that tasks for new positions are based on the contemporary needs of an organization, this procedure is especially valid.

A role model that has been constructed and tested for a new organizational worker can have many implications. Every organizational position exists in relationship to other organizational positions. Therefore, when new positions are added, an organization must make appropriate adjustments. This will be especially true when the new worker will change the traditional hierarchical structure, as will be the case for the youth program staff model when the program assistant intervenes between youth agent and volunteer. In this study it was evident that youth agents did not agree with volunteers on tasks that would have program assistants working in direct relationship with volunteers. One may conclude that youth agents desire to maintain direct relationships with the volunteers.

This role model for program assistants can help identify required positional qualifications, direct pre-induction orientation and on the job training, aid in job supervision, provide a basis for writing job descriptions, undergird the development of county youth staffing models, and serve to guide evaluation of current youth programs where program assistants are employed.

The functional task development approach used to develop an ideal role model for program assistants in this study may be useful in studying this position, or other positions, in other states. Also, the findings may be helpful to all staff members as they form expectations for Extension program assistants. It also can be concluded from the analysis of tasks by functional category that the program assistant role was seen as appropriate in all aspects of the organizational life of the youth program.

This paper is based on an Extension Service, USDA, Special Project Report and doctoral dissertation, entitled, "Role Model for the Paraprofessional Youth Worker in the Extension Service," completed at North Carolina State University, under the direction of Drs. Jerry Parsons and Curtis Trent, Department of Adult and Community College Education. The study was completed in cooperation with the U.S. Department of Agriculture and the Office of 4-H, Agricultural Extension Service, North Carolina State University.

Sample A. Role of the Paraprofessional Youth Worker in the Extension Service

INTERVIEW SCHEDULE

Demographic Data

1. County ____________________ or State ____________________
2. Agent ______ Aide ______ Leader ______
3. Age __________ yrs. 4. Tenure __________ yrs.
5. Rural ________ Urban ________ Combination ________
6. Experience in 4-H - Youth Work __________ yrs.
7. Race ____________________
8. Marital Status: Married ________ Unmarried ________
9. Number of Children ____________
10. Education: High School ________ College ________

    Years __________ Type Degree ______________________________
11. Size of 4-H program ________________ (number of 4-H members)
12. Number of organized community clubs __________
13. Prior Experience (work or volunteer)

Role Definitions

1. What do you do in the 4-H - Youth Program?
2. What does Agent--Aide--Leader do? (Describe two which apply)
3. What do you think the role of Agent--Aide--Leader should be?

Sample B. Panel Evaluation Form

(A Partial Sample)

Tasks	A		B		C		
CODE: A = Task Appropriateness B = Task Assignment C = Task Functional Assignment	Acceptable	Not Acceptable	Program Assistant	Program Aide	Acceptable	Questionable	Should Be Assigned To:
1. Acts as a liaison person between the 4-H program and the community and/or county.							
21. Assists 4-H - Youth development agents in determining program objectives.							
41. Assists communities in selection of project leaders, activity leaders and junior leaders needed by the club.							
61. Confers with 4-H - Youth development agents on progress, problems and results.							

Sample C. Questionnaire

(A Partial Sample)

INSTRUCTIONS

On the following pages is presented a suggested set of work tasks that could be a part of the youth program aide's job description.

Numbers on the scale following each task statement in the questionnaire have the following rating.

5 Very Appropriate -- an essential part of the aide's job

4 Somewhat Appropriate -- probably should be a part of the aide's job

3 Undecided -- may or may not be a part of the aide's job

2 Somewhat Inappropriate -- probably should not be a part of the aide's job

1 Very Inappropriate -- definitely should not be a part of the aide's job

Please circle only one number to indicate your feeling on the appropriateness of each task for the youth program aide. Be sure you circle one number for each separate task. If you circle Very Inappropriate, number 1 for the task, then also check in the next column indicating who you would assign the task to -- 4-H Agent or 4-H Volunteer Leader. Check in this column only if you circle number 1.

YOUTH PROGRAM AIDE JOB DESCRIPTION		Agent	Leader
1. Assists 4-H Youth Agents in evaluating county activities.	5 4 3 2 1	( )	( )
2. Serves as a public relations person for the 4-H Youth program and extension.	5 4 3 2 1	( )	( )
3. Counsels with 4-H volunteer leaders on how to work with parents and other leaders.	5 4 3 2 1	( )	( )
4. Understands immediate and long range program goals and assists 4-H volunteer leaders in planning local youth programs to provide learning experiences to help youth reach these goals.	5 4 3 2 1	( )	( )

AN ANALYSIS OF THE NEED AND FORM FOR COMPREHENSIVE ADULT EDUCATION ASSOCIATIONS

Lloyd J. Korhonen -- Department of Administration and Supervision
The University of Wisconsin-Milwaukee

The growth of professional association within a discipline can be used as a measure and descriptor of the growth of the profession itself. This growth can take a variety of forms, chief among them being growth in numerical strength of its association or associations, growth in number of separate associations, or growth in the variety of activities that are classified within the profession and acknowledged within its association or associations.

It has been my observation, through over seven years of work in the field of adult education, that no one organization has generated enough common interest among adult educators to generate their continuing support. This perception was reinforced during the past two years of my involvement with Project ENABEL, an adult basic education teacher training project at Michigan State University. Each of the six states in U.S.O.E. Region V has developed associations of adult educators. In none of the states, however, has there emerged a comprehensive adult education association that is supported by the entire field of adult education to any significant degree.

The adult education movement in the United States has historically been a fragmented movement.

> There are, perhaps, a dozen professional associations in which adult education workers associated with agencies primarily devoted to adult education are grouped according to the type of institution they work in. Examples include the National University Extension Association, the National Association of County Agents, the National Association of Public School Adult Educators, the Association of University Evening Colleges, the Adult Education Division of the American Library Association, and the American Association of Junior Colleges. These associations are concerned primarily with advancing their own institutional programs, but secondarily with their role in the general adult education movement. They tend to encompass the bulk of the people who see themselves making their careers in adult education.[1]

To these organizations can be added the National Community School Education Association, the National Council on Community Services for Junior and Community Colleges, and many associations of private and public groups.

The numerical strength of the adult education movement is impossible to state precisely. Johnstone and Rivera, in a study published in 1965, found that twenty-five million adults (about one person in every five in the United States) were involved in adult education. This same study reported that 16,500,000 adults were enrolled in regular continuing education courses sponsored by institutions with the United States in 1962.[2] Cyril Houle, in his book The Design of Education, enumerates seven learning modes for adult learners utilized by individuals and institutions in adult education.[3]

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[1] Gale Jensen, A. A. Liverright, and Wilbur Hallenbeck, eds., Adult Education--Outlines of an Emerging Field (Adult Education Association of the U.S.A., 1964), p. 63.

[2] John W. C. Johnstone and Ramon J. Rivera, Volunteers for Learning: A Study of the Educational Pursuits of American Adults (Chicago: Aldine Publishing Co., 1965), Adapted from Table, p. 61.

[3] Cyril O. Houle, The Design of Education (San Francisco: Jossey Bass, Inc., 1972), pp. 90-128.

This great scope within the adult education enterprise makes it extremely difficult to mount a successful organization of general interest to all adult education. At the same time, however, the diffused nature of the field gives rise to the necessity for a single generalized organization at state and national levels if the profession is to be recognized in its totality.

> Adult education in this country needs a generalized national organization of maximum inclusiveness in terms of the content and organized structure of the field . . . in the present state of our society and of adult education, the AEA seems essential.[4]

Whether the present Adult Education Association fills the need for a generalized adult education association, or if another association should arise to fill this need is really not the question. The need exists and will continue to exist. An effective generalized association, in the opinion of most students of voluntary and professional associations, will become the growth organization.

At the present time the Adult Education Association of the U.S.A. is endeavoring to fill this need. Founded in 1951 the AEA was initiated with these purposes:

> 1. To bind volunteer and professional workers into a fellowship dedicated to improving their competencies as adult educators.
> 2. To establish lines of communication for joint planning and sharing of experience between individuals and organizations engaged in Adult Education.
> 3. To acquaint the general public with the needs and opportunities for Adult Education and to stimulate greater support for it.[5]

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[4] Edmund de S. Brunner, "Report to the Adult Education Association" (Bureau of Applied Social Research, 1960), p. 1.

[5] Malcolm S. Knowles, "How the Adult Education Association Works," Adult Leadership, II, No. 2 (April, 1954), 5.

In order to develop a strong national association, the development of strong state associations is necessary. As stated by Edmund de S. Brunner:

> The strongest volunteer agencies are those with strong local organizations and ties and these exist only where such relationships are cultivated and mutually profitable.[6]

The state of Michigan is unique among the states in its history in adult education activity. All the major associations of adult education are represented within the state. It has had a leadership role in both university and cooperative extension, in public school and library adult education, in worker education, in education for women, and in many other sectors of adult and continuing education. Michigan has also led the way in the development of new associations as is illustrated in two of the newest of the national associations. The National Community School Education Association was chartered in Flint, Michigan and the founding of the National Council on Community Services for Junior and Community Colleges was led by university and community college workers in Michigan. During its first twenty years the AEA-USA has drawn six of its presidents from Michigan, and two of its twenty annual conventions have been held in Michigan.

The Adult Education Association of Michigan was founded in 1954, three years after the chartering of the Adult Education Association of the U.S.A. At the present time the state association is experiencing many of the same concerns expressed at the national level. It is presently examining its role and trying to redefine its relationships to adult education and to the various specialized adult education associations. The problem of role definition is especially difficult for this association which, by original design and continuing intention, is concerned with the total field of adult education. At the same time as other associations define and redefine their memberships to narrower and narrower limits, the need for the integrating and unifying influence of a comprehensive state adult education association serving the total field becomes increasingly apparent.

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[6] Brunner, *op. cit.*, p. 1.

The Problem

The problem for this research has been to assess what is desired by representative adult educators of one or more state adult education associations. It has sought, further, to answer the question, if, indeed, there are needs not now being met by the Adult Education Association of Michigan, how can the structure of the association be adjusted to permit satisfaction of these needs and to justify its continuing as a comprehensive association? The general operational problem in this research have been to assess what adult educators desire of state-wide associations.

Objectives of the Study

The objectives of this study have been to assess what is desired of comprehensive state adult education associations by respondent adult educators.

1. Identify whether there does exist among AEA-M officers and members and among other adult educators who might be expected to become members, a perceived need for a comprehensive state adult education association.
2. Identify the organizational goals as perceived by rank and file members within the association.

3. Identify the organizational goals as perceived by persons who might be expected to become members but are currently outside of the association.
4. Predict which specific organizational goals will or will not foster broad concensus among adult educators.
5. Identify internal factors that need to be adjusted in order to satisfy goal expectations of association members, present and former officers, and persons outside the association that are potential members.

Assumptions

The three major assumptions of this study are:

1. There are factors within a voluntary association that, when properly developed and related, will lead to maximum achievement.
2. There is a broad range of goals for a comprehensive adult education association which are held in common by adult educators in spite of their differences in function and role.
3. These same goals are held in common by adult educators whether or not they are currently members of the association.

Research Methodology

The Research Designed was an empirical analysis of opinions of a wide variety of adult educators, both members and non-members of this Association and others.

Data were obtained by using a mailed questionnaire. This allowed a broad coverage and involvement on the part of 730 adult educators in five selected groups.

Assumptions

Three interrelated assumptions were made as directly related to association effectiveness. These assumptions plus the theoretical propositions constituted the conceptual foundation for this investigation.

1. The degree to which organizational goals will be actively pursued is directly related to the extent to which these goals are perceived as important by members of the association.
2. The degree to which an organization will be effective is directly related to the extent to which its goals are perceived as important by members of the profession outside the Association.
3. The degree to which an organization will be effective is directly related to the degree of consensus among its members as to its goals.

Analytical Framework for the Study

Factors analyzed in the study have been organized into six categories:

(1) Interorganizational relationships--the relationship between organizations for adult educators and the present or possible structure of that relationship.

(2) Intraorganizational relationships--the present and possible internal relationships and the structure and practices of an organization for shaping those relationships.

(3) Communication--the present and possible modes of communication. This includes communication between organizations, within organizations, with the field as a totality, and with specific and general publics.

(4) Association services--the present and potential services which an organization of adult educators provides or should provide to the field of adult education or to its members.

(5) Professional standards--the present and potential standards for identifying professional members and guiding professional conduct in the adult education enterprise.

(6) Legislative action--the present and potential activities of adult educators or their association to influence legislation or the functioning of governmental agencies at any level.

Population Surveyed

Five discrete groups, including 730 adult educators, were surveyed. Each of the groups was selected because it represented a significant sector of the total population of adult educators. The Adult Education Association (designated AEA-M) was open to persons who worked or were interested in any field of adult education. The Michigan Association of Public Adult and Community Education (designated MAPACE) was open to two specific groups of adult educators, administrators of public school adult education and directors of community school programs. Its membership had consisted historically and predominantly of the former. The ENABEL externs, a group of teachers, administrators and counselors (predominantly teachers) in adult basic education, represented a group who had recently become engaged in adult basic education and for whom no special association existed in the state. The members of the Michigan Library Association represented a group that, at one period, was quite active within the adult education association, but had since lost essentially all of their contact with it. The other selected groups represented individuals engaged in adult education for special audiences and who were generally not connected with any adult education association at the time of the study.

The population survey included members of these five major groups all involved, and together reasonable representative of the interest, statewide, in the adult education enterprise.

Association	Nature of Membership
AEA-M	All segment of the adult education enterprise
MAPACE	Public school adult education and community education directors
M.L.A.	Public and private librarians of Michigan
ENABEL State Externs	Teachers, counselors, and administrators of adult basic education
Selected adult educators not generally identified with Public Adult Education	Police training, medical training, government (municipal, county, and state), church adult education groups, business training, and volunteers in cooperative extension.

Analysis of Responses

The quantitatively expressed responses of each respondent were recorded on IBM Data Processing Cards. Data were analyzed with the use of a CDC 6500 computer. An ACT program, number T.R. 72-8, authored by Leighton A. Price and William P. O'Hare of the Social Science Research Computer Institute at Michigan State University was utilized. ACT yields contingency tables (bivariate frequency distributions) for designated pairs of variables. The paired variables utilized in this study are the groups in which respondent is included and their quantitatively expressed responses.

Reporting Format

The results were reported utilizing six measures. The measures of central tendency were: mean scores for all respondents to each of the items, variance of the means, and standard deviation. Standard deviation was utilized as an indicator of variance for the mean score as well as an indicator of across group differences. Two separate means and standard deviations were reported, individual group means and standard deviations, and total mean and standard deviation for each item.

Contingency Table Output

The contingency tables were reported utilizing the following format:

	Responses			
Groups	1	2	3	4
1				
2				
3				
4				

Chi Square Test and Significance Level

The test of significance of variance between groups utilized in this study was the Chi Square Test. A small variance is defined as consensus (reject for leage values of Chi Square). A large variance (small Chi Square) is defined as no consensus.

The significance level was set at .995. The rejection level utilizing .995 is .005 and the Chi Square values at the appropriate degrees of freedom was read from Table 8 of the Biometrika Tables for Statisticians.

One or the other of two numbers have represented degrees of freedom for analysis of the Organization of Adult Education Survey. The group response calculations utilized twelve degrees of freedom (N rows-1 x N columns-1). Twelve degrees of freedom at the .005 level meant that the Chi Square value must have been at or below 28.2995 to indicate statistically significant group consensus.

Conclusions

The major conclusions of this study are drawn from the research conducted and the case study of the Adult Education Association of Michigan.

1. An adult educator will give his primary support and dedication to his specific area of adult education, not to the general field of adult education.
2. An adult educator is generally willing to support one association but will not devote his time and money to support more than one.
3. In the opinion of the respondents, there is a need for an association that speaks for the entire field of adult education, and enough common concerns among adult educators to justify its existence.
4. In the opinion of the respondents, adequate services are not available to the field of adult education. Providing these services is thought to be an acceptable role for adult education associations.

5. The respondent adult educators believe that strong regional differences exist in programs of adult education and that a state-wide association should be designed so that its actions are determined by representatives of the local, regional, or institution programs.
6. In the opinion of the respondents, there is a need for coordinated activity between the various specific associations. There is agreement that a general type of adult education organization should be responsible in this area.
7. There is a general lack of knowledge among the respondents, outside of the public adult education sector, as to the current status of programs and problems in the field of adult education.
8. The respondents from the groups representing the established adult education associations (the Adult Education Association of Michigan and the Michigan Association for Public Adult and Continuing Education) feel that there is competition for members between the current associations.
9. There exists a difference of expressed opinion in the area of the adequacy of the current adult education associations. Those that are now being served generally feel there are an adequate number of associations for adult educators to join. Those that are not now being served express the feeling that there are not currently enough associations.

A comprehensive state adult education association, by its very nature, must serve all segments of the adult education enterprise. It should be organized on a strong regional or community basis. The association should concentrate upon the areas of communication and service, primarily to a local area, and secondarily on a state interorganizational basis. The basic structure of membership should be both individual and organizational. It should be structured to allow for regional representation for direction of the state level association. It should devote time and effort to the pursuit of interorganizational linkages of all types.

A comprehensive state adult education association must try to work with a field that is amorphous in nature. An association of this type must be built upon common consensus and develop services and communication that are of mutual value to the entire enterprise. It should not become identified with any one segment of the field or support one against the other when conflict occurs.

--In this state at the present time there is adequate communication within the field of adult education; Statement Number 3.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	14.29	79.37	3.97	2.38	100	1.94	.53
M.A.P.A.C.E.	90	28.89	63.33	5.56	2.22	100	1.81	.63
M.L.A.	62	4.84	67.74	4.84	22.58	100	2.45	.90
O.P.A.E.	45	4.44	68.89	6.67	20.00	100	2.42	.87
ENABEL	66	18.18	75.76	6.06	0.00	100	1.88	.48
TOTAL	389	15.68	71.98	5.14	7.20	100	2.04	.70
Chi Square		64.165$^{\text{n.s.}}$[*]		DF 12				

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[*] Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--In this state at the present time there are adequate consultant services available to local programs of adult education; Statement Number 8.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	26.19	57.94	5.56	10.32	100	2.00	.86
M.A.P.A.C.E.	90	26.67	62.22	3.33	7.78	100	1.92	.78
M.L.A.	62	19.35	40.32	6.45	33.87	100	2.55	1.15
O.P.A.E.	45	13.33	57.78	4.44	24.44	100	2.40	1.01
ENABEL	66	12.12	72.73	9.09	6.06	100	2.09	.67
TOTAL	389	21.34	58.61	5.66	14.40	100	2.13	.91
Chi Square		41.973$^{n.s.*}$		DF 12				

[*] Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--It is my judgment that an adult educator should give his principal support to an organization which serves his specific area of adult education; Statement Number 17.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	47.62	41.27	11.11	0.00	100	1.63	.68
M.A.P.A.C.E.	90	56.67	35.56	7.78	0.00	100	1.51	.64
M.L.A.	62	54.84	25.81	17.74	1.61	100	1.66	.83
O.P.A.E.	45	55.56	26.67	17.78	0.00	100	1.62	.78
ENABEL	66	56.06	24.24	19.70	0.00	100	1.64	.80
TOTAL	389	53.21	32.90	13.62	0.26	100	1.61	.73
Chi Square		18.223$^{\text{s.}}$[*]		DF 12				

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[*] Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--In this state at the present time there are one or more organizations which can adequately serve all segments of adult education; Statement Number 1.

Group	N	Agree	Disagree	No Opini	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	59.52	30.16	5.56	4.76	100	1.56	.81
M.A.P.A.C.E.	90	66.67	26.67	3.33	3.33	100	1.43	.72
M.L.A.	62	30.65	45.16	9.68	14.52	100	2.08	1.00
O.P.A.E.	45	28.89	35.56	13.33	22.22	100	2.29	1.12
ENABEL	66	28.79	60.61	0.00	10.61	100	1.92	.85
TOTAL	389	47.81	37.53	5.66	9.00	100	1.76	.92
Chi Square		65.334$^{n.s.*}$		DF 12				

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*Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--In this state at the present time there are strong regional differences in programs of adult education; Statement Number 4.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	57.14	17.46	11.90	13.49	100	1.82	1.10
M.A.P.A.C.E.	90	60.00	24.44	7.78	7.78	100	1.63	.93
M.L.A.	62	59.68	6.45	4.84	29.03	100	2.03	1.35
O.P.A.E.	45	60.00	2.22	11.11	26.67	100	2.04	1.35
ENABEL	66	66.67	9.09	12.12	12.12	100	1.70	1.10
TOTAL	389	60.15	14.14	9.77	15.94	100	1.81	1.14
Chi Square		34.411$^{n.s.*}$		DF 12				

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[*] Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--In this state at the present time there is adequate public understanding of the adult education enterprise; Statement Number 7.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	4.76	91.27	2.38	1.59	100	2.01	.37
M.A.P.A.C.E.	90	6.67	92.22	1.11	0.00	100	1.94	.27
M.L.A.	62	8.20	81.97	3.28	6.56	100	2.08	.61
O.P.A.E.	45	2.22	93.33	0.00	4.44	100	2.07	.45
ENABEL	66	6.06	92.42	1.52	0.00	100	1.95	.27
TOTAL	389	5.67	90.46	1.80	2.06	100	2.00	.40
Chi Square		15.206$^{s.}$[*]		DF 12				

[*] Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--The type of state adult education association that should provide a forum for various state associations to discuss common goals and differences; Statement Number 54.

Group	N	Spec. Organization	General Organization	Every Organization	No Organization	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	8.74	75.40	18.25	1.59	100	2.17	.52
M.A.P.A.C.E.	90	7.78	75.56	15.56	1.11	100	2.10	.52
M.L.A.	62	12.90	66.13	19.35	1.61	100	2.10	.62
O.P.A.E.	45	6.67	73.33	20.00	0.00	100	2.13	.50
ENABEL	66	15.15	68.18	16.67	0.00	100	2.02	.57
TOTAL	389		72.49	17.74	1.03	100	2.11	.54
Chi Square		$9.975^{s.*}$		DF 12				

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*Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--It is my judgment that I can and should devote my time and money to more than one adult education organization; Statement Number 21.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	36.51	52.38	11.11	0.00	100	1.75	.64
M.A.P.A.C.E.	90	38.89	51.11	10.00	0.00	100	1.71	.64
M.L.A.	62	17.74	53.23	27.42	1.61	100	2.13	.71
O.P.A.E.	45	33.33	40.00	24.44	2.22	100	1.96	.82
ENABEL	66	15.15	65.15	15.15	4.55	100	2.09	.78
TOTAL	389	30.08	52.96	15.68	1.29	100	1.88	.70
Chi Square		35.373$^{\text{n.s.}*}$						

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*Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

—It is my judgment that most adult educators are willing to join and support more than one adult education organization; Statement Number 18.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	46.03	30.95	15.87	7.14	100	1.84	.94
M.A.P.A.C.E.	90	57.78	27.78	7.78	6.67	100	1.63	.89
M.L.A.	62	24.19	24.19	33.87	17.74	100	2.45	1.05
O.P.A.E.	45	37.78	13.33	28.89	20.00	100	2.31	1.18
ENABEL	66	40.91	33.33	10.61	15.15	100	2.00	1.07
TOTAL	389	43.44	27.51	17.48	11.57	100	1.97	1.04
Chi Square		$44.303^{n.s.*}$		DF 12				

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*Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

--In this state at the present time there are adequate in-service education opportunities for adult education personnel; Statement Number 2.

Group	N	Agree	Disagree	No Opinion	No Knowledge	Percentage of Group Response	Mean	Standard Deviation
		%	%	%	%	%		
A.E.A.-M.	126	59.52	30.16	5.56	4.76	100	1.56	.81
M.A.P.A.C.E.	90	66.67	26.67	3.33	3.33	100	1.43	.72
M.L.A.	62	30.65	45.16	9.68	14.52	100	2.08	1.00
O.P.A.E.	45	28.89	35.56	13.33	22.22	100	2.29	1.12
ENABEL	66	28.79	60.61	0.00	10.61	100	1.92	.85
TOTAL	389	47.81	37.53	5.66	9.00	100	1.76	.92
Chi Square		65.334 n.s.*		DF 12				

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[*] Chi square (χ^2) value at or below 28.2995 with 12 degrees of freedom indicates very close agreement (significant at .005 level) among groups in their responses.

COGNITIVE STRUCTURE AND CONCEPT FORMATION

ABSTRACT

This study was designed to determine the correlation coefficient of cognitive structure and concept formation. Thirty-four Ss assisted in the study. Their tasks were to complete a timed three-dimensional test of concept formation ability using Hanfmann's Block Test and Rokeach's Dogmatism Scale. It was assumed Hanfmann's Block Test measures concept formation ability and Rokeach's Dogmatism Scale measures cognitive structure. A correlation coefficient of .3359 was generated; significant at .05 level of significance. However, due to the fortituous nature of the sample generalization, results may be made only with extreme caution. Additional research is recommended.

COGNITIVE STRUCTURE AND CONCEPT FORMATION

Huey B. Long

Purpose

This study was designed to determine the correlation coefficient of cognitive structure and concept formation.

Significance

The significance of the paper resides in the conceptualization of the research. Previous research activities in the area of concept formation and cognitive structure generally have been paper and pencil activities. Furthermore, the idea of *process* and *structure* being key elements in concept formation appears to be closely related to the rationale of the design. Such a conceptualization of concept formation appears to have merit. If the idea is supportable, it may be possible to move concept formation from the value-laden areas of "intelligence" and personality." Cast in such an "information processing" framework, concept formation may be easier to discuss in terms of remediation.

Review of the Literature

Kurt Lewin (2) provided an early theoretical description of the structure, dynamics, and development of the person. According to Lewin's concept, the individual's inner-personal region is divided into numerous cells. Specific bits of information may be located in any one of the cells and communication among or between cells may be influenced by three dimensions: the nearness-remoteness dimension, the firmness-weakness dimension, and the fluidity-rigidity dimension.

Rokeach (10) has further developed the concept of cognitive structure through the theoretical construct of a belief-disbelief system. According to Rokeach's theory, cognitive structure is operationally reflected in a "dogmatism" score. Dogmatism is used synonymously with the term, "closed-belief system." Rokeach chose to study the organization of the belief system from a "structural" dimension rather than a "content" dimension because he believed the relative openness or closedness of a mind cut across specific content. He said (10, p. 6), "The ax we frankly grind is simply this: it is not so much what you believe that counts, but how you believe."

According to Rokeach's conceptual framework the open-minded person possesses greater ability to synthesize information. In contrast the rigid individual may have problems thinking analytically but not synthetically. Thus, the dogmatic individual may astutely analyze a problem yet be unable to integrate and synthesize the results of the analysis.

Concept formation requires both kinds of abilities: the ability to analyze and synthesize. Smoke (12) suggests that concept formation includes the selection of specific stimuli out of a complex stimulating situation. In addition, he indicates that grouping and insightful behavior are two other significant factors in concept formation. Thus, it appears that concept formation requires the ability to identify and receive appropriate information, manipulate the information analytically, and then integrate and synthesize the information; abilities that may be lacking in high dogmatic individuals.

Rokeach and Vidulich (11) made use of the Doodlebug Problem to investigate synthetic thinking differences of open- and closed-minded groups. In that study the mean times taken to solve the problem after the first, second and third beliefs had been overcome were used as measures of synthesizing ability. The open-minded group required significantly less time ($p < .01$) to solve the problem for each variable. The time difference was "clearly due to differences in the ability to synthesize, and not in the ability to analyze," according to the researchers (11, p. 213). Additional investigators have reported similar results using the Doodlebug Problem and related exercises (1, 9).

Rokeach (10) also predicted that open- and closed-minded subjects would differ in synthesizing perceptual as well as conceptual systems. Accordingly, Levy and Rokeach (8) tested for such differences using an adaptation of the Kohs Block Design Test. In that test the S is presented a design and asked to reproduce it through the combination of various painted blocks supplied by the E. Levy and Rokeach presented their Ss with six such designs and found that in each case the open-minded group was able to complete the task in less time than the closed-minded group; however, none of the differences were significant at the .05 level. A chi-square analysis of the Ss revealed significant differences between open- and closed-minded groups on three of the six designs. Contradictory findings, however, have been reported by Kessler and Kronenberger (7).

Simultaneously, the literature appears to support the concept of process and structure as opposed to "content." Hunt (5) has suggested that problem-solving capacity is dependent upon strategies for information processing. Bingham, cited by Hunt, indicates insight occurs through the combining and recombining of central processes derived from past experience in which organized patterns of behavior are combined and recombined as new situations might demand. The importance of process is suggested by Newell, Shaw and Simon, cited by Hunt (5). They indicate that the individual possesses a series of processes for receiving and acting on information that operate by a definite set of rules.

Various writers in the area of cognition have supported the premise that concept formation, thinking and problem-solving involve the two processes of differentiation of analysis and integration (4, 6, 13). Such a view appears to provide support for the suggestion that concept formation is influenced by the process used to analyze and integrate information. If process and structure are the key factors in concept formation, it can be understood how apparent "highly knowledgeable" individuals can be dogmatic and/or circular in their thinking.

Research Methodology

Conceptual Framework

Based on the literature reviewed, it appears that concept formation may be "content-"free. It is further postulated that concept formation may be media- or form-free, i.e., not restricted to oral, written, structural, visual or tactile information. Concept formation is viewed as an ability to identify, select and receive appropriate information, to manipulate the information analytically and finally to integrate and synthesize the results of the analysis. Such a process is theoretically based on cognitive structure rather than cognitive content. Accordingly, the following research project was designed to test a specific related sypothesis.

Basic Assumptions

Basic assumptions important in developing the research methodology were as listed below.

1. Rokeach's Dogmatism Scale measures cognitive structure.
2. Hanfmann's Block Test measures concept formation ability.

Definition of Terms

Operational definitions of key terms used in the studies are as follows:

1. University students are individuals registered for, and participating in, regular classes at the University of Georgia.
2. Cognitive structure is defined in terms of the Ss scores on Rokeach's Dogmatism Scale.

3. Hanfmann's Block Test (3) is a modification of a procedure used by Eugenia Hanfmann and Jacob Kasanin to measure concept formation. The procedure is described in detail later (henceforth referred to as HBT).
4. Concept formation is operationally defined according to length of time required by Ss to develop a conceptually sound classification system for the blocks in the HBT.

Hypothesis

Stated in the null form, the hypothesis tested at the .05 level of significance is as follows: there is no significant relationship between concept formation and cognitive structure scores among Ss in this study.

Population and Sample

Thirty-four Ss were included in the study. The sample was a fortuitous one since all the Ss were university students who agreed to assist with the research.

Data Collection Procedures

The procedures followed in the study are outlined below:

Request of students to participate in the study. The purpose and details of the study were not described or explained until the project was completed.

Administration of Rokeach's Dogmatism Scale.

Individual appointments of students with a graduate assistant.

Administration of HBT individually by graduate assistant.

Computation of results.

Description of Instruments

Rokeach's Dogmatism Scale is widely known. Thus, the reader is referred to the Open and Closed Mind for details. Form E consisting of 40 items was used. Each S was given the instrument under the title "Opinion Survey" to complete between class sessions.

HBT consists of 20 blocks of wood in 5 geometric shapes, and 4 colors. There are 10 thick blocks and 10 thin ones. Each geometric shape is represented by 4 blocks of differing sizes. For example, there are 4 circles of different dimensions. The Ss' task is to develop a conceptual classification system that will logically divide the blocks among 4 subsystems; each subsystem containing 5 blocks. The S may make as many attempts as he wishes. When he believes he has the correct classification, he notifies the E. He then explains the system. If the S is incorrect, he may make additional attempts.

After the E has checked the arrangement two times and the system remains incorrect, the S may turn two blocks over to secure two bits of information. On the underside of each block is a nonsense syllable such as BLK, LAG, MOR, or CEN. The nonsense syllables are keys to the 4 subsystems.

In this study Ss were allowed up to 60 minutes to complete the task.

Findings

Dogmatism scores ranged from 86 to 197. Concept formation tasks required from 3 minutes to 53 minutes. The mean dogmatism score was 129.08. The mean concept formation task time was 21.65.

The null hypothesis that there is no significant relationship between concept formation and cognitive structure scores among Ss in this study was rejected. A correlation coefficient of .3359 was generated. The coefficient is significant at the .05 level.

Conclusions

Based on the data generated by this study, it appears that there is a relationship between cognitive structure and concept formation for selected groups. Because of the nature of the sample used in the study, generalization of the finding may be made only with extreme caution and tentativeness. Yet, the results are sufficiently encouraging to suggest additional research.

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AN EVALUATION OF THE EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM IN MISSOURI

by

Nelda Nolan and John Gross
University of Missouri

Introduction

During the 1960's the Congress of the United States discovered that in this land of plenty there are people who are malnourished. A report by the Citizens' Board of Inquiry into Hunger and Malnutrition estimated that there are fourteen million hungry people in this country.[1] These people live in every state. No state is free of hunger anymore than any state is free of poverty or deprivation.

A nationwide survey in 1965[2] was concerned with the food consumption of families in the United States. The results of this survey showed that only 50% of the households had diets that were rated good. About 20% of the households had diets that were rated poor.[3] A somewhat larger number were rated poor in 1965 than in 1955 when the previous nationwide survey was made. Nearly 40% of the households with incomes under $3,000 had poor diets. The percentage of households with good diets increased markedly with income.

Regardless of the extent to which malnutrition exists it is a very serious problem for the individual who is hungry and for the society which allows him to go hungry. The societal implications of malnutrition in this country are particularly ugly. As former Senator Clark has pointed out, the mind tends to reject the evidence that children can and do starve in the most abundant and fruitful of all nations.[4] Since it is usually difficult to mobilize the entire nation for the solution of a problem, especially if the situation is as hidden as malnutrition tends to be, one approach is to deal directly with those most effected by the problem. This approach has been characteristic of the efforts to deal with malnutrition.

The Expanded Food and Nutrition Education Program was introduced in the fifty states, Washington, D. C., the Virgin Islands, and Puerto Rico in 1968. The program was administered on the local level by the Cooperative Extension Service under the sponsorship of the United States Department of Agriculture. The primary objective of the Expanded Food and Nutrition Education Program was to assist low income families with children to improve the nutritional adequacy of their diet. This was supplemented by several more specific objectives:

1. To increase knowledge of the relationship of nutrition to health and well-being;
2. To increase food buying skills to insure maximum value from the dollars invested in food;
3. To develop food preparation skills in order to serve palpable meals and insure maximum preservation of food nutrients with minimum waste;
4. To develop skills in the care and storage of the family food supply;
5. To encourage eligible families to participate in the Food Stamp or Commodity Food Program;
6. To increase the ability of the family to manage the family resources including food stamps or commodity foods.

A key feature of the program is the use of the paraprofessional Nutrition Education Assistant. She is a woman* who has a social and economic background similar to that of the women with whom she works. She teaches low income homemakers, either individually or in small groups, showing them ways to improve the nutritional adequacy of their diets. Upon being hired, the Nutrition Education Assistants are given several weeks of intensive orientation training. This is followed by regular in-service training. In general, their knowledge of nutrition before employment is no greater than that of the persons with whom they will be working.

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* All Nutrition Education Assistants in Missouri have been women. Some other states have employed male Assistants.

The Expanded Food and Nutrition Education Program was started in Missouri in January, 1969. It began in five Extension program planning locations in the state -- St. Louis, Kansas City, and the Mid-Missouri, Bootheel, and Ozark Foothills Areas. There were, initially, 90 Nutrition Education Assistants. By the close of 1969, the program had been expanded in the two metropolitan areas and in the Bootheel and had been initiated in the Lakes Country Area. The total number of Nutrition Education Assistants had risen to 150. The program was extended to six additional locations in 1970. These were: ABCD, Kaysinger Basin, Mark Twain, Ozark Gateway, Show-Me, and South Central Ozarks Areas. [redacted] As of March 30, 1972, the month in which this evaluation data was collected, there were 186 Nutrition Education Assistants in twelve units in Missouri. These Assistants had enrolled 9,607 program families. There were 50,711 persons in these families, including 33,722 children.

The Need for Evaluation

During the last decade, an abundance of socially oriented programs have been developed. Each of these programs was aimed at dealing with some social problem and producing good for some neglected segment of society. As more and more of these programs come into being and compete for public support and money, the public demands that they produce evidence of the good that they are doing. Evaluative research has become a major weapon in this contest for public support.

The Expanded Food and Nutrition Education Program is one program that has felt the need to provide evidence of the accomplishments it has made. Evaluation was built into the Expanded Food and Nutrition Education Program from the very beginning. Data have been collected from the initiation of the program concerning its efforts to achieve its goals. At the time of this study, monthly reports were made to the Extension Service, USDA, concerning the number of families enrolled in the program, the number visited on a monthly basis, the number of youth and volunteers worked with, and the number of Assistants doing the work. Every six months, data were collected regarding socio-economic characteristics of the families enrolled in the program, their food consumption habits, and their knowledge of basic nutrition. By examining these data across time, it is possible to see changes in the outreach of the program, changes in the characteristics of the families worked with, changes in their knowledge of nutrition, and, most importantly, changes in their diets.

The data used to determine dietary adequacy were gathered by personal interview, obtaining a 24 hour food recall from each program homemaker once every six months. The Nutrition Education Assistant working with a given homemaker collected these data. Assistants were specially trained to obtain data.

The adequacy of a homemaker's diet was assessed in terms of the number of the recommended daily servings of each of the four food groups that she consumed. An adequate daily diet should consist of two servings of meat, two servings of milk, four servings of fruits and vegetables, and four servings of breads and cereals. No attempt was made to assess the adequacy of the diet in terms of the nutrients it contained.

The data on the homemaker's knowledge of basic nutrition were also gathered every six months by the Nutrition Education Assistants. Each homemaker was asked to name the foods she thought a person needed every day in order to be healthy. The foods named were classified according to the four basic food groups. A homemaker was said to have greater or less knowledge of basic nutrition, depending upon how many of the four basic food groups were represented by the foods she named.

The data indicate that, in terms of effort, the Expanded Food and Nutrition Education Program has been successful. As of March 31, 1972, the month in which our evaluation study was conducted, the average full-time equivalent (FTE) Nutrition Education Assistant in Missouri had enrolled 49.5 program families. During that month she visited an average of 36 of these families at least once. In addition, she visited with an average of 26 nonprogram families and 34 youth. She was assisted in her effort by a volunteer. Thus, in the course of the month she taught nutrition to almost 100 persons.

The data indicated that families participating in the Expanded Food and Nutrition Education Program improved their diets. When the diets of homemakers who had been in the program for varying lengths of time were compared, it was clear that those who had been enrolled at least six months had better diets than those newly enrolled. In the March, 1972, recall, 50% of the newly enrolled homemakers reported at least one serving from each of the four food groups compared to 59% for homemakers who had been enrolled for a longer time. This increased adequacy of consumption was apparent, for all four of the basic four food groups continued to improve for approximately eighteen to twenty-four months.

The data about knowledge of basic nutrition indicated that program homemakers increased their knowledge. Only 57% of the homemakers named foods from each of the basic four food groups as being necessary for health when first enrolled in the Expanded Food and Nutrition Education Program.

After three years of participation, over 80% could do this.

These data suggest that the Expanded Food and Nutrition Education Program has been successful in its efforts. But, the data leave an important question unanswered: Can the increase in adequacy of diets which is observed among program families be attributed to the program?

Objectives of the Study

There were two primary objectives of this study. First, to determine whether there were differences in the behavior of program and control* families with regard to the program objectives. If there were behavior differences, it would be assumed that the Expanded Food and Nutrition Education Program was the causal factor. The second objective was to determine if there were any characteristics which distinguished those program families whose diets were adequate from those program families whose diets were inadequate. This would provide the needed information about the factors which influence food consumption.

With regard to the first objective, three hypotheses were developed. Each focused on a different program objective. It was hypothesized:

1. Families who were participating in the Expanded Food and Nutrition Education Program would have diets that were more adequate in terms of the Recommended Daily Dietary Allowance of selected nutrients than families who were not participating;
2. families who were participating in the Expanded Food and Nutrition Education Program would have higher scores on a measure of food buying skills than families who were not participating; and
3. families who were participating in the Expanded Food and Nutrition Education Program would have higher scores on a measure of nutrition knowledge than families who were not participating.

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* A description of the control families is included in this report on page ___.

With regard to the second objective, it was hypothesized that an adequate diet for program families would relate positively with certain characteristics of the family. The expected influential characteristics were:

1. race;
2. homemaker's age;
3. homemaker's education;
4. family income;
5. mass media awareness;
6. participation in food assistance programs; and
7. participation in ~~food stamp, commodity~~, Public feeding programs, ~~and supplemental food programs~~.

It was also hypothesized that adequacy of family food consumption would be positively related to two characteristics of the program, the frequency of visits with the Nutrition Education Assistant and tenure in the program.

Design of the Study

The State of Missouri contains both highly urbanized areas and very rural areas. The twelve units of the Expanded Food and Nutrition Education Program in Missouri are located in areas that range along the total continuum from urban to rural. Differences between the program in urban areas and in rural areas have been observed. These differences are believed to be a function of the urban-rural nature of a particular area. These differences include such things as the number of times that an Assistant visits with a homemaker, the likelihood that a homemaker will be visited in her home as opposed to being visited in a group, the possibility of growing a home garden, the use of food stamps as opposed to the use of commodity foods, the availability of public programs providing foods, the availability of public services, and the percentage of program children who are enrolled in 4-H type Expanded Food and Nutrition Education Program activities.

There are, of course, other differences between an urban and a rural area which may have at least indirect influence upon a homemaker's acceptance of the program. Because of these differences, it was felt that the urban-rural nature of an area was an important factor to be considered in program evaluation. Thus, the three areas that were chosen for the evaluation study were representative of varying points along an urban to rural continuum. These areas were: St. Louis City, representing an urban area, Macon County, representing a small town area, and Carter and Ripley Counties, which represent a rural area.

For every program area used in this study, another area that was adjacent and similar to it was chosen for use as a control area. For the City of St. Louis it was possible to have the control area within the city since the Expanded Food and Nutrition Education Program did not cover the entire city. For Macon County the control county was Linn. Linn County is also a small town county, adjacent to the west side of Macon County. For Carter and Ripley Counties the control counties were Shannon and Oregon, which are very rural areas adjacent to the west side of the program counties. The use of control areas was deemed vital to provide a complete answer to the question of whether any increase in the adequacy of diets among program families could be attributed to the Expanded Food and Nutrition Education Program.

The design of the study is what Campbell and others[5] have called a static group comparison. The entire study was done after the treatment had been administered to the program group.

At the time of this study, work in two of the areas, St. Louis City and Carter and Ripley Counties, had been in operation for three years.

Thus, it was possible to introduce another variable: Tenure in the program. The sample of program families chosen for interviewing in these two areas were selected to represent families who had been in the program for varying lengths of time. In the third program area, Macon County, this was not possible because the program had been in operation there for only one year.

It was decided that a sample of 200 program families and 200 control families would be appropriate for this study. One hundred of the program families and 100 of the control families were to be selected from St. Louis City. Fifty program families and fifty control families were to be selected from each of the other two areas. The Manual for Nutrition Surveys, by the National Institute of Health, reported that, "Experience indicates that a minimum of 15 families is required to give satisfactory data by means of the 24-hour recall questionnaire method within a population sample of approximately 1500 people."[6] At the time of this study, there were 1927 program families in St. Louis, 106 in Macon County, and 277 in Carter and Ripley Counties. Thus, the chosen sample size should give satisfactory results.

In Macon County, where the program had been in operation for only one year, the fifty program families were chosen at random from a total list of enrolled program families. In St. Louis City and Carter and Ripley Counties, where the program had been in operation for three years, the total list of program families was divided into four parts: those families who had been in the program less than seven months; those who had been in the program seven to twelve months; those who had been in the program thirteen to eighteen months; and those who had been in over eighteen months. No program families were selected for interviewing who had been in the program less than seven months. An equal number of program families were then randomly selected for interviewing within each of the other three time intervals. The random nature of the selections was insured by use of a table of random numbers.

Throughout the course of this study, assistance was provided by the Field Research Team of the Department of Agricultural Economics and Rural Sociology. It was this team that drew the control sample for use in this study. Cooperation was obtained from the Division of Welfare. They provided the names of families in the control areas receiving public assistance and/or federally sponsored food assistance. The control families for this study were drawn from this list of persons and their neighbors. They were selected to be as nearly like the program families as possible with regard to certain characteristics: place of residence, receipt of welfare, number of children under nineteen years of age, age of homemaker, participation in a food assistance program, education of the homemaker, and household income.

Each of the potential control families was visited by a member of the Field Research Team before interviewing to determine their eligibility to be interviewed. If a family was not eligible because they did not match with one of the program families, they were asked to supply the names of three additional families who were of circumstances similar to theirs. In this way it was possible to include in the control sample persons who were not receiving welfare and/or participating in one of the food assistance programs.

The Data

All data were collected by interview. The interview schedule was developed by the members of the Expanded Food and Nutrition Education Program

(EFNEP) Committee. Suggestions concerning the schedule were obtained from the EFNEP Advisory Committee, Dr. Norge Jerome of the University of Kansas Medical Center, and other qualified persons.

The schedule went through a series of revisions. The final revision was preceded by a pre-test. The pre-test consisted of administering the schedule to 13 program homemakers in the St. Louis area. The 13 homemakers used in the pre-test were eliminated from participating in the final collection of data. Only two months elapsed between the pre-test and the final collection of data, so the influence should have been minimal, if any. The pre-testing was done by four members of the EFNEP Committee. On the basis of the pre-test, final revisions were made and the schedule was developed into its final form.

Details about the schedule are presented elsewhere in this report.

Collection of the Data

It was deemed important that persons who collected the data for the evaluation study should possess two characteristics: a knowledge of the subject matter of foods and nutrition and an ability to communicate effectively with the persons to be interviewed. After discussing these qualifications with Dr. Norge Jerome and with the Expanded Food and Nutrition Education Program Advisory Committee, it was decided that the Nutrition Education Assistants filled both of these qualifications. Most important, they were well qualified to communicate with the persons to be interviewed. Thus, it was decided that the Assistants would do the interviewing for the evaluation study. However, it was felt that it would be unwise to have an Assistant interview the program families with whom she had been working, since some of the data could be construed as reflecting either favorably or unfavorably upon the Assistant and since the program homemakers might feel that they were being tested if their usual Assistant did the interviewing.

The Assistants received three days of intensive training in interviewing procedures and in understanding the interview schedule. This training was conducted by the Supervisor of the Field Research Team from the Department of Agricultural Economics and Rural Sociology. The training involved reviewing each question on the interview schedule, completing a practice schedule with a friend, and role playing, which included knocking, introducing oneself, and dealing with some difficult problems that might be encountered in the process of data gathering. At the end of the three days of training, Assistants still having problems with the interviewing procedures were asked not to participate in the interviewing.

Because it took three days to gather all the information from one family, interviews were begun on Monday, Tuesday, or Wednesday. This allowed interviews to be completed by Wednesday, Thursday, or Friday. Weekends were avoided in gathering the data because it was felt that families frequently eat differently on weekends than they do during the week.[7] An attempt was also made to avoid interviewing the day and shortly after welfare checks were distributed because this could bias diets of people.

All data were obtained from the program homemaker.* The initial interview took approximately an hour to an hour and a half. The Assistant obtained the demographic nutrition knowledge, food buying skills, and food frequency data and asked the homemaker to recall what and how much her family had eaten at home in the 24 hours immediately preceeding the interview. On the second and third days of the interview, additional family food consumption records were obtained. This procedure was explained in more detail elsewhere in this report.

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* For the purposes of this program, the homemaker is defined as the person in a given household who has primary responsibility for food preparation.

All data were gathered in March, 1972, within a one-week period in the Macon-Linn and Carter-Ripley-Shannon-Oregon areas and within two weeks in St. Louis. At the end of each day of interviewing the Program Assistant's completed interview schedules were reviewed and edited by the Supervisor of Field Research. Any data that were missing were to be gathered by the Assistant on her return visit to the family. Any inadequacies in gathering the food consumption data were explained to the Assistant so that she could improve her techniques.

Food Intake Data*

There are a variety of ways in which to evaluate the nutritional status of an individual. These methods include clinical observations, biochemical analysis, and anthropometric measurements. However, for the purposes of this study, there was no attempt to evaluate the nutritional status of individual persons. The attempt was to assess differences in the nutritive intake of program families and nonprogram families. The assessment of the nutrient intake of each of these groups would allow conclusions to be drawn comparing the adequacy of each group's nutrient intake on the specific days covered by the study. However, it would not provide direct evidence of whether a given person was well or poorly nourished.

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* Assistance in writing this section of this report was provided by Mildred Bradsher, Associate Professor of Foods and Nutrition, State Foods and Nutrition Specialist, University of Missouri.

There are also several methods for assessing nutrient intake. One method is to inventory all the foods available at the beginning of the study and all foods obtained during the course of the study. Food remaining in the inventory at the end of the study and food that was wasted during the course of the study are subtracted from the first two amounts to get an approximation of the food eaten by the group during the course of the study.

Obtaining twenty-four hour recall data is another method, which involves an interview. A trained person asks the subject to recall the kinds and amounts of foods consumed in the previous twenty-four hours.

A third method is to obtain the dietary history. The subject is interviewed and asked questions about his past dietary habits, his food likes and dislikes, food allergies, and seasonal variations in intake. Food intake or dietary records are obtained by having a person write down all foods and amounts consumed for a one-day multiple-day length of time. Weight of food consumed is obtained by having the subject weigh all food that is on his plate before eating and then weigh all food that is left on the plate after he has finished.

Each of these methods of evaluating dietary intake has its strengths and weaknesses. Some of them are very time consuming and some are less so. Some of them require a great deal of cooperation on the part of the subject while others require little. Some of them are of a nature that allows the subject to modify his intake practices as a result of the study while others avoid this but rely upon memory. Thus it appears that Beal was right when she concluded, "It is obvious then that no method of obtaining information about the diets of individuals is without flaw. But if we are to evaluate the nutritional status of people, we must develop skills and techniques to obtain the best possible data and keep in mind the limitations of whatever method is used."[8]

Young and her associates have written, "Evidence presented in this study gives further support to previous conclusions that for studies of the average dietary intake of a group the simplest possible techniques seemed justified."[9]

With this in mind and after consultation with Dr. Norge Jerome and the Foods and Nutrition Specialists on the Expanded Food and Nutrition Education Program Committee, a procedure which involved obtaining a record of each family's food consumption for 72 hours was developed. The kind and amounts of food that were prepared and consumed by the family members at home during the 24 hours preceding the initial interview were recorded as recalled. To assist the homemaker in estimating the amounts of foods prepared and eaten at home, the interviewers gave each homemaker a one cup dry measure and a set of four measuring spoons. These were to be a gift from the interviewer to the homemaker and were to be used by her in estimating the amount of food prepared and eaten. It was also felt that the small gift might be sufficient to induce the continued participation that was needed over a three-day period.

To minimize the problems associated with recalling the food prepared, the interviewers asked each homemaker to write down on a form which was left with her all the food that she or anyone else prepared for her family to eat at home during the next 24 hours, and who ate the food and how much was left over. Prepared foods that were bought outside the home were not included. If guests were present for a meal or snack, their age and sex were recorded.

On the second day the interviewer returned to the family's home, reviewed what the homemaker had written and obtained more detailed information as it was needed. At that time, she left another form and asked the homemaker to continue for another 24 hours. On the third day, she returned and again reviewed what the homemaker had written and to be sure it was as accurate as possible. After the third 24 hours of food consumption had been recorded, the interview of a family was completed.

A procedure similar to this was employed by Patterson in exploring the food habits and physical development of fourth, fifth, and sixth grade children. She described her procedure in this manner:

"A twenty-four hour food recall was obtained during the first interview. Written and oral instructions and food models were used to improve the accuracy and quantitative estimates and to minimize possible misinterpretation about what foods were eaten and how they were prepared. Forms and instructions were given to each subject for recording his food intake for the next two days. These food records were checked with the subject as soon as possible after completion."[10]

Several aspects of this procedure helped to insure the accuracy of the data obtained. First, it was not necessary for the homemaker to estimate the amount eaten by a single person. Amounts were estimated in terms of that prepared for the total family. Thus, it was possible for the homemaker to speak in terms of one #2 can of green beans rather than a specific number of cups of green beans and to report that her family ate a 2 lb. loaf of bread rather than trying to remember the number of slices consumed. Secondly, the interviewer visited the homemaker every day to help her record the information as accurately as possible. If the homemaker had not completed the food record, the interviewer helped her to do so. If she had completed it, the interviewer would question her about food items that she might have forgotten such as cream in coffee or spread on bread. She would also try to insure that the quantity estimated was as accurate as possible for both food prepared and food wasted. Of course, the daily visit by the interviewer insured that the information was indeed recorded daily. Third, foods purchased and eaten outside the home were not included in the food records.

There is a considerable difference of opinion concerning the minimum number of days over which a dietary record must be kept to yield accurate information. Chalmers reports, "Although little factual information is available on the subject, many authorities feel that a dietary record covering a period of seven consecutive days with twenty consecutive meals is the shortest length feasible from the standpoint of accuracy. However, field units operating under the direction of the U.S. Public Health Service obtained dietary information by use of the one day dietary record. They believed that a larger number of accurately taken one-day records are as useful as the smaller number of seven day records."[11]

Chalmers goes on to report, "By use of variance components it was found that a dietary record need consist of only one day when characterizing the dietary intake of a group."[12] Similarly, Young has reported, "The pattern of the daily means for the group proved sufficiently stable to suggest that even less than a week's record would have provided an estimate of intake with little loss in precision."[13]

With this in mind and with an appreciation of the economic and time constraints under which we were working, it was decided that a three-day dietary appraisal would be most suitable for this evaluative study.

Nutrition Knowledge Data

Knowledge of nutrition has been ascertained in the past for a variety of reasons. Young[14] related nutritional knowledge to certain socio-economic factors of homemakers. She was also interested in determining the area of most inadequate nutrition knowledge. Wang[15] examined the differences in nutrition knowledge exhibited by homemakers of different income levels and teenage youth. Eppright[16] examined the relationship between a mother's nutrition knowledge and her attitude toward meal planning, food preparation, nutrition, and permissiveness in feeding children. Peterson[17] examined the nutrition knowledge of elementary school teachers as it related to their approaches to achieving desirable food behavior changes in young children.

Young, Eppright, and Peterson used procedures in which the respondents indicated that a series of items were either true, false, or don't know. Eppright and Peterson allowed the respondent to indicate the degree of certainty or uncertainty about her response. Young utilized a procedure of ninety-six open-end questions which were completed in the course of an interview.

For the purposes of this study the respondent's knowledge of nutrition was assessed by means of two questions, one of which had six subquestions. The first question asked the respondent to identify two foods from a list of ten that would provide food value similar to that of milk. The two correct choices were cheese and ice cream. Among the eight incorrect answers were two beverages, so the persons who view milk simply as a beverage might choose them as the correct response. Also among the incorrect responses were foods that were nutritious but which do not contain the same kind of food value as milk. These foods might be chosen by a person who simply views milk as "good for you." The other incorrect responses were foods that simply fill your stomach. These might have been chosen by persons who view milk simply as the hunger quencher.

The second question asked the respondent to choose the more nutritious food from each of six pairs of foods. Each pair contained a food relatively high in nutrients and one relatively low in nutrients. Included were two pairs of vegetables, one pair of fruits, one pair of meats, one pair of snack foods, and one pair consisting of a protein food (cottage cheese) and a food advertised as protein (jello).

These two questions afford the respondent eight opportunities to reveal her understanding of food nutrients. In scoring the answers, the respondent received one point for each correct answer for a possible total score of eight.

Food Buying Skills

The respondent's knowledge of food buying was also assessed. Two questions were used. The first question had two parts. The first part dealt with buying canned tomatoes and the other with buying a loaf of bread. A card picturing the labels of two cans of tomatoes was handed to the respondent who was asked to select the brand she would purchase for use in preparing soup. Brand X tomatoes were identified as "Whole--Hand Selected" and the can weighed 14½ ounces. Brand Y tomatoes were not identified, but the can weighed 16 ounces. The cans were said to cost the same. A similar procedure was used to determine which loaf of bread the respondent would purchase. The two loaves weighed and cost the same. One was labeled "Enriched" and the other "Brick Oven Baked." The respondent was to state why she favored the food chosen. She received one point if she chose the correct can of tomatoes or loaf of bread for the correct reason.

The second question on food buying dealt with buying milk. The respondent was asked which was most expensive: fresh fluid milk, canned evaporated milk, or dry powdered milk. She was then asked which was least expensive. She received one point for each correct response.

Factors Related to Family Food Consumption

A. Characteristics of the Homemaker

Questions were developed to obtain background data from each homemaker. These questions were designed to serve as independent variables in exploring answers to the second objective of this study. That is, they were to be used to determine if there are any characteristics which distinguish those program families with suitable diets from those with less adequate diets. Questions concerning the homemaker's race, age, education, family income, mass media awareness and participation in food assistance and public feeding programs were designed to indicate who the homemaker is. These data were gathered on the assumption that who the homemaker is is closely intertwined with what she does.

The data collected do not make it possible to assess the differing degrees of change in dietary habits experienced by different program families. It is only possible to conclude that at the time of the study, there were differences in the adequacy of the diets. However, examining characteristics which distinguished families whose diets are of differing adequacy may provide some insight into the factors which underlie and influence food consumption. The success of education in nutrition and thus the success of the Expanded Food and Nutrition Education Program is dependent upon knowledge and understanding of the factors which influence food consumption. Reh has said, "The investigation of food consumption and its evaluation are in themselves not enough. The background of the consumers must be studied and understood. Relevant and valuable economic, agronomic, and social data can and should be collected during food consumption surveys. Consumption surveys are not made to satisfy curiosity about what people eat; they are made to provide a basis for measures to improve food consumption in dietary practices."[18]

The first objective of this study will provide an answer about the effectiveness of the Expanded Food and Nutrition Education Program in Missouri. The second objective will provide help in planning future educational programs in nutrition. Ms. Reh has also said, "The mere knowledge of per capita food consumption and the nutritional adequacy of the diet is insufficient for planning practical programs for improvement of the diet. Socio-economic and other data are required concerning the food consumption group."[19] Thus, information about characteristics which distinguish program families whose diets are adequate will be useful in planning for the future of the Expanded Food and Nutrition Education Program.

1. Age

It was hypothesized that the age of the homemaker would be related to the quality of her family's diet. Specifically, it was hypothesized that the younger the homemaker, the better the diet of her family would be. Young and her associates found, "The young homemakers (under 40 years) appeared to do a somewhat better job in feeding their families than the middle-aged (40-60 years) or old (over 60 years) homemakers."[20]

Similarly, Sanjur and Scoma found that the mother's age was negatively associated with the child's food intake.[21] Of course, there is nothing inherent in the aging process which would make one less inclined to feed one's family adequately. Therefore, it must be assumed that the relationship between age and adequacy of diet is in fact being caused by some additional factor such as the younger homemaker's greater education or her greater awareness of nutrition information. However, in the case of the Expanded Food and Nutrition Education Program homemakers, both young and older homemakers are exposed to nutrition information. Therefore, if the hypothesized relationship between age and adequacy of diet is found, it may be due to younger homemakers' greater willingness to accept the principles taught by the Nutrition Education Assistant.

In a study of the social and psychological factors associated with the acceptance of new food products in Pennsylvania, Bylund[22] found that those homemakers who were most willing to try new foods were younger than those who were less willing. He suggests that due to physiological, psychological, and sociological reasons the tendency to try new food products drops sharply with age.

2. Education

It was hypothesized that the greater a homemaker's educational level, the more adequate would be the diet that she served her family. Davis reviewed the studies of vitamin and mineral nutrition in the United States between 1950 and 1968 and reported, "A number of studies examined the relationship between educational level and dietary and/or biochemical data. Several of these found a direct relationship in that individuals with a higher educational level appeared to have better nutrition."[23] Young found, "In general, homemakers who graduated from high school had only some high school and these in turn have better practices than those who attended grade school only. With increased education a higher percentage of homemakers used all seven of the basic food groups in their menus."[24]

The hypothesized relationship between education and dietary adequacy is based on the assumption that the greater one's educational level, the greater the chances that one would have encountered nutritional information and the greater will be one's awareness of the nutrition information that is presented through the mass media.

It could be argued, of course, that all homemakers who are in the Expanded Food and Nutrition Education Program have received education about nutrition and thus their original educational level should have no influence upon their dietary adequacy. This argument would be based on the assumption that education about a subject leads to action on that subject. However, this is not necessarily so. The number of years of formal education obtained by a homemaker is probably a good indication of her willingness to learn. Thus, those homemakers with more education would be more willing to learn from the Nutrition Education Assistant and thus more likely to feed their families more adequately. Bylund[25] did, in fact, find such a relationship in his study.

It was not expected that the educational level of the program homemakers in this study would cover a very large range. This is due to the fact that the program homemakers have low incomes and low income tends to be associated with lower educational levels. Indeed, as of March, 1972, the month in which this evaluative study was conducted, eighteen percent of the program homemakers had an eighth grade or less education. However, it was expected that the anticipated relationship between education and dietary adequacy could be observed even within a narrow range of educational level.

3. Income

Although all of the homemakers in the Expanded Food and Nutrition Education Program are supposed to have low incomes, it was hypothesized that within the narrow range represented by program families, there would be a direct positive relationship between income and dietary adequacy. In his review of studies, Davis found that a direct relationship apparently exists between income and diet with higher income groups having better diet than low income groups. This appears to be true even in a narrow low income range. Davis reported on a study which examined 296 families with incomes ranging from less than $500 to over $3000 by class intervals of $500. In this study there was a direct relationship between income and intake of calcium, vitamin A, and vitamin C, with less clear relationships with other nutrients.[26] The USDA 1955 and 1965 nationwide surveys of the nutrient value of food purchases found that for all nutrients there was an inverse relationship between the percentage of households whose purchases were below the RDA and income.

In the report by the Citizens' Board of Inquiry in Hunger and Malnutrition in the United States, it was said "Consumer education--to be effective--requires two critical ingredients: (1) adequate purchasing power which can then be used more "wisely" and effectively; and (2) a relevant body of knowledge, teaching techniques, and pedagogical approaches."[27] The Expanded Food and Nutrition Education Program does not increase the purchasing power of the program families by giving them direct payments. Therefore, it was assumed that those with more adequate purchasing power would be in a position to more wisely and effectively use the knowledge that the Nutrition Education Assistant brings to them.

These three variables--age, education, and income--are, of course, intimately intertwined. Both Young and Eppright reached the conclusion that education level of a homemaker is more important than her income level in determining dietary adequacy. Young says, "Though increases in income level brought some increase in the adequacy of eating practices both qualitatively and quantitatively, the increases were neither as consistent nor as great as increases in education level. That the effect which was present probably was primarily one of education was shown by simultaneous examination of the effects of both education and income."[28] Young also found that the observed relationship between age and nutrition knowledge was actually a mere reflection of the relationship between educational level and nutrition knowledge.

4. Race

Davis reports that there is conflicting evidence about the influence of a racial difference on dietary adequacy. However, this conflicting evidence could be produced by a failure to control certain other variables such as income and education that tend to be associated with race. Yet, Davis reports on two studies in which these other variables appear to be controlled and yet conflicting conclusions are still reached. He reports that Delgado studied migrant Negro families and found, "The percentage of families whose intakes were below various levels of RDA was significantly higher than those in other household studies."[29] Thiele also studied Negro migrant workers and "found biochemical indices of nutrition which were similar to those found in other studies."[30]

The hypothesis for this study was based upon the second report by the Citizens Board of Inquiry into Hunger and Malnutrition in the United States.[31] Preliminary results of this ten-state nutrition survey indicated that in the low income states of Texas, Louisiana, Kentucky and West Virginia and South Carolina, by any measure used, black families have a poorer nutritional status than white families.

5. Mass Media Awareness

It is sometimes said that low income persons tend to be isolated from the general society. It was hypothesized that homemakers who overcame this isolation to some extent by reading newspapers and magazines and by listening to radio and television would serve their families more nutritionally adequate meals. This hypothesis is based on the fact that these communication channels are often employed to distribute information about and stimulate interest in foods and nutrition.

Sanjur and Scoma[32] asked mothers to rank the sources of information which they felt had the greatest influence on their eating practices. The lowest rank was given to "printed materials." The highest ranking was given to their own mother and other relatives. However, none of the sources of information which the mothers were asked to rank were of a mass media nature, such as radio and television. It is also unclear exactly what printed materials were considered. Bylund[33] found that homemakers who adopted more food practices were in fact the ones who made "a great deal" of use of the mass media sources of magazines and newspapers.

6. Participation in Food Assistance Programs

There is some evidence that participating in a federally sponsored food assistance program does not increase the nutritional adequacy of the diets of low income families. Madden and Yoder[34] studied the impact of food stamps and commodity distribution on the dietary adequacy of low income families in rural Pennsylvania. They found that the families receiving commodity foods had no better diets than similar families who did not receive commodity foods. They also found that food stamps had a positive impact on the dietary adequacy of a family only under very unfavorable conditions. They concluded that, in general, families who received food assistance do not continue to spend the same amount of money on food as they did in the past, but in fact, they reduce their food expenditure and use the money for something else, thus maintaining the same level of food coming into the house and therefore the same level of dietary adequacy.

A report by Feaster[35] noted that at the time of enrolling in the Expanded Food and Nutrition Education Program the dietary practices of families participating in federally sponsored food programs was similar to that of the families not participating in a food assistance program. However, this report noted that after six months of participating in the Expanded Food and Nutrition Education Program, the program homemakers had made important improvements in the dietary adequacy of their families. Thus, it was hypothesized that those program families whose diets were better would be the ones who were participating in a federally sponsored food assistance program. This hypothesis is based on the assumption that if a family were utilizing money that could be spent on food for other family expenses, then upon learning of the necessity to eat adequately, it would be possible for them to move that money to food purchases and thus to improve the adequacy of their diet.

7. Participation in Public Feeding Programs

Although the food eaten outside the home was not used in calculating the dietary adequacy of the families who participated in this evaluative study, it was felt that food eaten outside of the home at one of the federally sponsored feeding programs such as school lunch or Head Start breakfast was indicative of a positive attempt to improve family diet. It was assumed that homemakers who encourage their children to participate in these feeding programs would also be interested in improving the adequacy of the food consumed in the home. Therefore, it was hypothesized that those families who participated in the federally sponsored feeding program would be the ones with the more adequate nutritive intake.

B. Characteristics of the Program

1. Frequency of NEA Visits

There is conflicting evidence about the influence of the frequency of visits from the Nutrition Education Assistant upon the dietary adequacy of a family. Madden and Yoder concluded that their analyses "do not indicate any significant difference in adequacy of dietary intake related to the number of nutrition aide visits."[36] However, fewer than 10% of the homemakers that they interviewed were participating in the Expanded Food and Nutrition Education Program and this sample was probably too small to allow a definitive conclusion to be drawn.

Feaster reported that at the end of six months participation in the Expanded Food and Nutrition Education Program, "the amount and intensity of food and nutrition education received by a homemaker--measured by number of program aide visits between food readings--had a positive effect on diet improvement."[37] For purposes of this study it was hypothesized that program families with a more adequate diet would be the ones who had been more frequently visited by their Nutrition Education Assistant.

2. Tenure in Program

Attempting to improve the adequacy of a family's food consumption is not clear cut. Questions arise as to how long one should spend attempting to improve adequacy. There is also the question of what constitutes improvement. Differing answers to these questions result in differing beliefs about how long a family should be enrolled in the program. An examination of the food recall data that are gathered every six months indicates that in terms of recommended minimum servings, program homemakers make little improvement in their family's food consumption beyond eighteen to twenty-four months of program participation. This is in keeping with the results of an analysis made by the Synectics Corporation[38] which found that even homemakers who initially were serving their families only half or less of the recommended minimum servings should be able to make sufficient progress in one or two years of participation to assure that they had received the full potential from the program. A similar finding was reported in a study done in Tennessee in 1971. The report of that study said "There appeared to be no significant relationship between length of time the families had been in the program and percents of homemakers with adequate servings from the food groups."[39]

However, the Nutrition Education Assistants, the persons who work most directly with the families, assure us that there is a reason to keep a family in the program beyond two years. They tell us that sometimes progress is made very slowly, but that progress is indeed made. Due to this dispute, it was decided to examine the effect of tenure upon the adequacy of a program homemaker's family food consumption.

Food Frequency Data*

An important fact about most studies of nutritional adequacy is that they have focused upon the level of nutrient intake of an individual or a group. The methods used have included those previously mentioned. These methods tend to be expensive in both the time and money necessary to obtain and analyze food information. This tends to make them inappropriate for studying a large number of persons at one time. These methods also require a great deal of cooperation on the part of the person from whom dietary information is being obtained. Consequently, investigators are interested in a less expensive, yet accurate method of assessing the dietary adequacy of a large number of persons. It is, of course, possible to describe dietary habits in terms other than nutrient intake. These descriptions "can be made according to many variables, among which are the spacing and pattern of food intakes, the environment in which the food is eaten, the speed of eating, the changes in food habits, and the frequency that foods are consumed."[40]

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* Assistance in writing this section was given by Ann Hertzler, Assistant Professor of Foods and Nutrition, State Foods and Nutrition Specialist, University of Missouri.

Information about the frequency with which foods are consumed is usually obtained by an interview. The method is particularly useful when it is desirable to obtain information about the characteristic diet over a long period of time. Several researchers have used the food frequency interview. Chassy, vanVeen, and Young[41] developed scales of diet complexity based upon the frequency with which certain groups of food were eaten. Abramson, Slome, and Kosovsky[42] found a significant relationship between the frequency with which foods were eaten by a heterogeneous sample of pregnant women and their hemoglobin level. They also found that the frequency with which a food is eaten is a reasonably good indicator of the quantity consumed.

Results obtained by the use of the food frequency interview method have been compared with the results obtained by other methods of assessing dietary adequacy. Stefanik and Trulson compared the results obtained by using the food frequency interview to those obtained by using a seven-day diet record and by using research histories. They found "In expressing dietary data from the coded diet interview in terms of food eaten at the rate of once per week or less and those eaten over this amount, information comparable to that found by the diet record technique and a more detailed research history was obtained... The three approaches to attempt at validation yielded favorable results which supported the belief that a shorter interview method with coded responses could be used to obtain base-line descriptive dietary information on large sample of men with fair accuracy relative to two established techniques."[43] Thomas and her associates [44] obtained seven-day food intake records and twenty-four hour recall records from a group of pregnant women. These data were simplified into food frequency data by recording the number of servings of foods in various food groups that the women had eaten. This method of appraising dietary intake of women was successfully compared to results obtained by records of chemical analyses of diets eaten by mothers and children; with records from direct calculations with tables of food composition; and with records of dietary intake obtained and rated in another laboratory.

A. The Use of Fruits and Vegetables by Low Income Persons

Kelsay reviewed the studies dealing with nutritional status and dietary evaluation which were conducted in the United States between the years of 1957 and 1967. She concluded, "In the dietary evaluation studies, on the whole, ascorbic acid, vitamin A, calcium, and iron were the nutrients most commonly found in the diets in amounts below the Recommended Dietary Allowances."[45]

A review of the studies of vitamin and mineral nutrition in the United States between 1950 and 1968[46] found that for all nutrients studied there was an inverse relationship between the percentage of households whose purchases were below the Recommended Daily Allowances and income. This was particularly true for vitamin C, vitamin A, and calcium.

In an in-depth analysis of the impact of the Expanded Food and Nutrition Education Program on low income families, Feaster[47] found that when homemakers first enrolled in the program, only fourteen percent of them were consuming an adequate amount of fruits and vegetables each day. At the end of six months of program participation, twenty-eight percent were consuming an adequate amount of fruits and vegetables. Although this increase is highly significant, even at the end of six months the consumption of fruits and vegetables was considerably less adequate for all the homemakers than was the consumption of any of the other four food groups.

This same trend is observable in the data from the State of Missouri. Data obtained from the food recalls of program homemakers indicate that twenty-six percent of the homemakers had an adequate consumption of fruits and vegetables when enrolled and only thirty-five percent ate enough of these foods after three years of program participation. Regardless of the length of participation in the Expanded Food and Nutrition Education Program, the consumption of fruits and vegetables is always the most inadequate in relation to the other three basic food groups.

B. The Present Study

The frequency with which the subjects of this evaluative study consumed fruits and vegetables containing vitamin A and vitamin C was obtained. The purpose for obtaining this information was (1) to determine whether program families consumed fruits and vegetables containing vitamin A and vitamin C more frequently than nonprogram families; (2) to determine if the families whose diets were judged to be adequate by means of the food record were the same families who were frequently consuming fruits and vegetables; and (3) to identify the fruits and vegetables that are familiar to Missouri families.

The interviewers were instructed that in gathering the food frequency data they were to record the consumption of a given food in any form. This procedure was based on the assumption that families more familiar with a given flavor would be more likely to use the food in a variety of forms and that providing the food in the home indicates that the family members recognize the item as food.

Coding the Data

All data in this study were coded by a small group of senior students majoring in nutrition at the University of Missouri. All foods consumed by a given family during the seventy-two hours covered by this study were recorded in terms of grams of edible foods. The amounts of food consumed by the family had been recorded by the homemakers in terms of household measures. These were converted into grams of edible food on the basis of available data.[48] The dietary needs of a family were determined by each family member's age and sex. The dietary needs of an adult female were used as the base in making these calculations. The dietary needs of 14 other categories of ages and sexes were developed on the basis of this adult female standard.

If a person consumed all of his food for one day at home, he was recorded as having obtained 100% of his dietary needs from the food that was consumed by the family during that day. Each of the major three meals consumed during the day was assumed to contribute twenty-five percent of a person's daily dietary needs. Thus, if a person ate one of these three meals away from home, he was said to have obtained twenty-five percent less than a 100% of his dietary needs fulfilled by food consumed at home. Each of two snacks that were measured in the course of this study was assumed to contribute to 10% of a person's daily dietary need. If a person consumed one of these snacks away from home, it was said that he received 10% less than a 100% of his dietary needs from the food consumed at home.

On the basis of this, each person's percent of dietary needs to be fulfilled by the food consumed at home was calculated. If a guest was present and ate any food with the family, that guest's age and sex were recorded. If the guest ate one of the three major meals with the family, it was coded that the family food consumption met twenty-five percent of this guest's dietary needs. If he ate a snack with the family, the family's food consumption met 10% of his dietary needs.

The Computer Program

A computer program was developed at the University of Missouri to process the information. The program calculates the nutrient content of foods as listed in USDA Handbook No. 8, "Composition of Foods." In addition, the program includes certain foods which had been added to the nutrient file by the Dietetics Department of the University of Missouri Medical Center. The program provided for the computations of the nutrient content for food energy, protein, total fat, saturated fat, linoleic acid, unsaturated/saturated fat ratio, cholesterol, carbohydrates, iron, vitamin A, thiamine, riboflavin, vitamin C, niacin, and niacin equivalent. The program also computed the percent of the recommended dietary allowance for each day according to the requirements of the person eating that day (requirements are determined by age and sex of those consuming the food). The standard deviation was also calculated for this average percentage for the period of the study.

FOOTNOTES

1. Citizens Board of Inquiry into Hunger and Malnutrition in the United States, Hunger U.S.A. (Boston: Beacon Press, 1968) p. 7.

2. S. F. Adelson, "Changes in Diets of Households, 1955-1965," Journal of Home Economics, Volume 60 (1968), 448-455.

3. Diets were rated as poor that provided less than two-thirds the allowance for one or more of these nutrients: protein, calcium, iron, vitamin A, thiamine, riboflavin, and ascorbic acid.

4. Senator J. S. Clark, "Starvation in the Affluent Society", in A. I. Blaustein and R. R. Woock (eds.), Man Against Poverty: World War III (New York: Vintage Books, 1965).

5. D. T. Campbell and J. C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally and Co., 1963).

6. Interdepartmental Committee on Nutrition for National Defense, Manual for Nutrition Surveys (Bethesda, Maryland: National Institutes of Health, 1963), p. 174.

7. Chalmers has said, "There has also been debate as to the need for obtaining data concerning nutrient intake on Saturdays, Sundays, and holidays. It is the general opinion of many research workers that eating habits of certain population groups tend to vary considerably on Sundays and other holidays." However, research done by Chalmers and other research reported by Morgan indicates that there is no real difference in the nutrient intake of a given person between days. A possible exception to this is college students who tend to eat less on weekends.

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17. M. E. Peterson, "Nutrition Knowledge and Attitudes of Early Elementary Teachers," *Journal of Nutrition Knowledge*, Volume 4, No. 1 (Winter 1972), 11-15.

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19. *Ibid*, p. 87.

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21. D. Sanjur and A. D. Scoma, "Food Habits of Low Income Children in Northern New York", *Journal of Nutrition Education*, Volume 2, No. 3 (Winter 1971), 85-95.

22. H. B. Bylund, *Social and Psychological Factors Associated With the Acceptance of New Food Products*, The Pennsylvania State University, College of Agriculture, Agricultural Experiment Station, Bulletin No. 708, December 1963, University Park, Pennsylvania, p. 8.

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26. Davis, Gershoff and Gamble, p. 48.

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28. Young, *et-al*, April 1956, p. 324.

29. Davis, Gershoff and Gamble, p. 49.

30. *Ibid*

31. Citizens Board of Inquiry into Hunger and Malnutrition in the United States, *Hunger U.S.A. Revisited*, published in cooperation with the National Council on Hunger and Malnutrition and the Southern Regional Council, 1972.

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33. Bylund, p. 18.

34. J. P. Madden and M. D. Yoder, *Program Evaluation: Food Stamps and Commodity Distribution in Rural Areas of Central Pennsylvania*, The Pennsylvania State University, College of Agriculture, Agricultural Experiment Station, Bulletin 780, June 1972, University Park, Pennsylvania.

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37. Feaster, p. 3.

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THE RELATIONSHIP BETWEEN GROUP PROCESS TRAINING AND GROUP PROBLEM SOLVING

Mary L. Pankowski
Department of Adult Education
Florida State University
Tallahassee, Florida

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CHAPTER I

INTRODUCTION

Statement of the Problem

Numerous experiments have shown that group solutions to problems are inferior to those made by individuals. It has been demonstrated that inhibiting factors are involved in the interaction process which may prevent groups from utilizing all the resouces available to them. The basic underlying assumptions of this study were: Groups have their own immaturity and maturity; and they require training as groups in order that the factors which interfere with their optimal functioning be alleviated. It was the purpose of this study to investigate the role of group process training in maximizing the effectiveness of groups in solving problems. More specifically, the study was focused upon (1) comparing the quality of interaction of a group which has undergone group process training with the quality of interaction of a group which has not had group process training; (2) comparing the quality of solutions to problems produced by a group which has had group process training with the quality of solutions made by a group which has not had group process training; (3) comparing the cohesiveness of a group which has had group process training with the cohesiveness of a group which has not had group process training; and (4) comparing the gain in achievement of individuals in a group which has had group process training with the gain in achievement of individuals in a group which has not had group process training.

Significance of the Problem

Effective membership in our modern democratic society demands participation by all citizens in a large and increasing quantity of interacting groups. The number and complexity of problems that our rapidly expanding technology thrusts upon us makes it imperative that we come up with effective solutions to these problems. Increased specialization has brought a spiraling accumulation of knowledge, but much of this knowledge lies fragmented among the various specialists in their fields. It is becoming increasingly clear that groups of specialists are and will be responsible for arriving at solutions for the problems of our times. Until we acquire experimentally grounded knowledge of the skills that are necessary for groups to interact more effectively and methods to gain these skills, we fail to release and develop the intelligence and productivity that is latent in groups.

The significance of this study is that it will provide experimentally grounded knowledge of the role of group process training in maximizing the resources that a problem solving group has available to it. If group process training is shown to have positive effects on group interaction and concomitantly on the quality of solutions that the group is able to produce, then individuals who desire the greatest utilization of the problem solving abilities of groups will have a method to help ensure the success of their groups. The study would thus have far-reaching implications for adult education.

CHAPTER III

CONCEPTUAL FRAMEWORK

The purpose of this chapter is to present the conceptual framework for this investigation. In addition, from this framework, several hypotheses will be drawn for testing.

A review of the relevant literature indicates that there are a number of factors which affect the quality of a group's solutions to problems. Among the most inhibiting is the lack of group membership skills that must be possessed by the group if it is to maximize the resources available within it. There are basically two functions which must be performed if a group is to be effective in solving problems--the task function and the group maintenance function. The task function involves facilitating and coordinating group efforts in moving toward the solution of problems. Newcomb, Turner and Converse (1965) have stated that in order for a group to be effective in solving problems it must have members who are able to perform the following behaviors related to task achievement:

> They are knowledgeable about matters related to the task; they are imaginative, innovative; they are hard-headed, realistic; they are persuasive, convincing

> in obtaining group consensus; they are good at formulating problems or summarizing discussions; they are skilled in planning, organizing, coordinating; they can be depended on to carry through (p. 477).

The group maintenance function involves member activities which contribute to making intermember relationships satisfying. Behaviors that are directly facilitative in such ways include the following;

> providing warmth, friendliness; concilitating, resolving conflict, relieving tension, providing personal help, counsel, encouragement; showing understanding, tolerance of different points of view; showing fairness, impartiality (Newcomb, et al., 1965, p. 481).

The achievement of a group's goals is facilitated to the extent that it has members who have the skills to perform the task and ghe group maintenance functions.

It was this investigator's contention that the effective performance of the task and group maintenance functions required group process training. Many individuals who become members of a group are not cognizant that both these functions need to be performed in order for the group to move toward its objectives and satisfy the needs of its members. They become frustrated in group situations when emotions get in the way of task achievement. Struggles over status, lack of participation on the part of some members; domination of discussion by others; expressions of hostility and apathy are all problems which have been reported as interfering with goal achievement. Even when an individual accurately diagnoses what is happening in the group and attempts to facilitate group movement; his efforts may not be "heard" by the group. For one thing, he may not be skilled in the role. Thus, he becomes just one more skater entering an already overcrowded rink. Then, too, the other group members may not perceive his contribution as facilitating because of the group's overemphasis on content rather than process.

It was assumed by the author of this study that group process training would provide a group with the necessary skills so that it could effectively integrate the task and group maintenance factors deemed by Collins and Guetzkow (1964) to be of prime importance in effective problem solving. They asserted that one of the conditions inherent in groups which serves to enhance the quality of group problem solving is the availability of a relatively wider range of information and ideas which, in turn, increases the probability that the group members will hit upon more adequate solutions to problems presented to it. A group which has been trained in group interaction skills would be more likely to employ practices which would facilitate the expression of ideas and opinions from all members such that more effective use could be made of their available member resources. Thus, task demands would seem to be better met because of the increased number of resources engendered by a more equal distribution of member participation and the accompanying flexible communication patterns.

Similarly, the interpersonal and group maintenance issues of importance in group problem solving would be likely to receive greater attention by a group trained in the functions of effective group membership. Members of a trained group would experience greater concern about the opinions and feelings of their fellow members. There would be fewer attempts by members to satisfy their self-oriented needs which were irrelevant to the group task and which were negatively oriented to group maintenance. Through group process training individuals would be helped to gain the skills necessary to deal with the interpersonal problems found by research to inhibit group effectiveness. Thus, the group is helped to utilize the resources it has within itself to become more effective in solving its problems.

A study by Rawls, Rawls and Frye (1969) concluded that members who perceived themselves as being able to perform tasks needed by their groups were more satisfied as group members. Thus, training in the functions needed by the group as is given in group process training would seem likely to enhance member satisfaction of those involved in the training. Because a group trained in group processes is more likely to have a more equal dispersal of participation among its members, it is also likely that its members would feel a greater sense of responsibility for their group's success (Benne and Sheats, 1948). Then too, because the interpersonal and group issues of importance are more likely to receive attention, members in the trained group might be expected to experience less member dissatisfaction and frustration. Thus, it might be predicted that individuals who had undergone group process training would have a higher group cohesiveness level--feel a higher sense of attraction to the group and thus have a higher level of cohesiveness than would individuals who had not received group process training.

Goldman (1965) found that groups, regardless of initial ability, are superior in improvement of performance to individuals working alone. If, as Goldman has shown, groups can be facilitative of learning, might it not follow that a group trained in effective membership skills might be more facilitative of learning than a non-trained group. Interpersonal concerns which might interfere with learning would also seem to be less for the trained group which has acquired skills to resolve them. Therefore, individuals in a group which has undergone group process training might be expected to make greater gains in learning than a non-trained group.

Thus, through group process training, individuals gain the skills to work with other group members in creating a climate that encourages collaborative problem solving and a process by which it can take place. Therefore, the trained group could be expected to produce qualitatively superior products as well as demonstrate higher quality interaction, greater satisfaction with the group and higher gains in learning achievement.

On the basis of the above conceptual framework, the following hypotheses were empirically tested in this study:

1. A group which has received group process training will evidence a significantly greater distribution of participation among its members than a group which has not received group process training.

2. A group which has received group process training will make a significantly smaller percentage of self-oriented contributions than will a group which has not received group process training.

3. A group which has received group process training will make a significantly higher percentage of group-oriented contributions than will a group which has not received group process training.

4. A group which has received group process training will produce a significantly higher quality "philosophy-policy" product than will a group which has not received group process training.

5. A group which has received group process training will produce a significantly higher quality "Strategy" product than will a group which has not received group process training.

6. A group which has received group process training will produce a significantly higher quality "Criterion System" product than will a group which has not received group process training.

7. A group which has received group process training will produce a significantly higher quality "Community-Level Objectives" product than will a group that has not received group process training.

8. A group which has received group process training will produce a significantly higher quality "Analysis of a Community-Level Objective" product than will a group which has not received group process training.

9. A group which has received group process training will evidence significantly greater group cohesiveness than will a group which has not received group process training.

10. Individuals in a group which has received group process training will exhibit significantly greater gains in achievement in course content than will individuals in a group which has not received group process training.

CHAPTER IV

METHODOLOGY

The purpose of this chapter is to present the methodology followed in conducting this research. Included are (1) Research Design, (2) Assigning Individuals to Groups, (3) Treatment, (4) Instrumentation and (5) Data Collection.

Research Design

The independent variable in this study is group process training. The dependent variables are group problem solving, group cohesiveness, and individual gain in achievement; and the intervening variable is group interaction.

The vehicle for this study was Dr. Wayne Schroeder's Program Development and Evaluation Course (ADT 548) which is taught during the summer and winter quarters at Florida State University. The course utilizes a simulation-gaming device developed by Dr. John Snider (1970) as his dissertation. A preliminary assumption of the simulation-game strategy is that a community council has been established within the community, "Microville," and that the participants assume the various roles of the council members who represent community agencies that offer adult education programs. Registrants for the course are divided into two community councils with the same roles in each. The simulation-game experience is based on an instructional model which provides the participants with opportunities to identify and utilize those concepts most relevant to program development. The experience also introduces participants to the social processes involved in bringing about the optimal development of programs. The instructional model includes the following components: (1) Philosophy--each council must come up with a group philosophy of adult education on which to base its operations; (2) Strategy--each council must design a strategy for identifying the needs and wants of "Microville" including kinds of data and source of data; (3) Needs and Wants--each council must identify the needs and wants of the various population groups within their community. A subcomponent of this phase of the "game" is that each council must analyze the data in order to establish priorities among the needs and wants.

The fourth component of the Microville simulation-game is that each council must, in light of its philosophy and its established priorities of community needs and wants, write community-wide objectives for an adult education program. The fifth component is the analysis of a community-wide objective which takes cognizance of the available human, physical, and financial resources that are available to Microville and the council's philosophy and the established priorities for needs and wants (Snider and Schroder, 1970, pp. 5-9). There are other components of the simulation-game as developed by Snider, but they deal with projects that must be completed by council members working individually. We are not concerned with them here since we are only interested in group products.

For each of the above components or problems, each council turned into the game administrator its written solution. Thus, there were five written group products.

Assigning Individuals to Groups

The sixteen individuals who registered for ADT 548 during the winter quarter of 1972 constituted the sample selected for this study. In assigning these individuals to the control or the experimental groups, an attempt was made to pair individuals on three variables which research has shown to affect an individual's performance in a group: (1) personality factors having to do with open mindedness; (2) previous group process training and/or experience in groups and (3) entering competency (Cartwright and Zander, 1968; Goldman, 1965). Accordingly, during the first class session each was given Rokeach's Dogmatism Scale, Form E which Rokeach (1960) described as ". . . a measure of the extent to which the total mind is an open mind or a closed one" (p. 397). Validation studies by Zagona and Zurcher (1965) furnish data to support the construct validity of the Dogmatism Scale. Reliability reports range from .68 to .93 with a median of .74 for intervals ranging from one to six months (Rokeach, 1960, p. 90). Secondly, each was given a questionnaire designed to ascertain how much previous group training or group experience he had had. In addition, each registrant was given a pre-test of program development principles to determine his entering competencies in the content of the course.

The data in Table 1 give an indication of the central tendencies of the resulting scores on the control variables.

TABLE 1.--Measures of Central Tendency for Control Variables

	Mean	Median	Range
Dogmatism Score	126.5	117.5	86-180
Previous Group Experience	Extensive work in groups and no previous group process training		Minimal previous work in groups and no previous group process training--Extensive experience working in groups and previous intensive group process training over a three-year period
Pre-Test Score	49.8	58.0	18-69

Because of the small number involved in the sample, those above the median on each of the pre-test instruments were placed in the "high scorer" category and those below in the low category. Six matched pairs on all three instruments were found. Two other pairs could not be matched on all three measures. A decision was made to match the other two pairs on the basis of their score on the Dogmatism Scale as it was the most reliable and valid measure of the control variables. Accordingly, two pairs were matched on the basis of their scores on the Dogmatism Scale and, as it happened, on their previous group training and experience as well. The randomizing technique of coin tossing was used throughout the selection procedure in deciding which member of each pair was designated an experimental subject and which member was designated a control subject. Table 2 shows the resultant distribution of the scores on the control variables between the two groups. To check on the accuracy of the matching procedure an analysis was made of the differences in the scores between the two groups using the Wilcoxon Rank Sum Test (Wilcoxon and Wilcox, 1964, pp. 7-8). The latter was selected since it was appropriate for analyses of two independent samples of interval data. The differences were not found to be significant at the .05 level.

TABLE 2.--Comparison of Matched Groups on Control Variables Using Wilcoxon Rank Sum Test

	Mean	Median	Range
Dogmatism Score			
Group A	127.1	119	90-180
Group B	125.8	117	86-178
N*=8 M**=8 W***69.5 Sig: NS			
Previous Group Experience			
Group A	Extensive work in groups and no previous group process training	Minimal previous work in groups and no previous group process training--Extensive experience in working with groups and 20 graduate hours in group counseling and sensitivity training both as a member and trainer	
Group B	Extensive work in groups and no previous group process training	Minimal previous work in groups and no previous group process training--Extensive experience in working with groups and extensive participation in group process training over a three year period	
Pre-Test Score			
Group A	59.5	61.5	35-69
Group B	53.0	57.5	18-69
N*=8 M**=8 W***=72.5 Sig: NS			

N* - Number of individual scores in Group A.
M** - Number of individual scores in Group B.
W*** - Rank Sum of Group A.

Through the procedure described above the experimenter attempted to control for those factors identified in the research literature which influence group effectiveness other than those that would be explicitly treated. The pre-testing procedures ensured that both groups were similar in composition. Each was composed of the same number of members--eight. Each group worked on identical problems. Both were newly organized such that the status hierarchy, amount of cohesiveness, and the communication network were similar at the beginning of the study. Since both groups were composed of graduate students working for a course grade, the motivation to perform the tasks was assumed to be equal.

Treatment

The experimental group received group process training from a qualified and experienced trainer, Dr. Robert Stakenas. He is an Associate Professor in the Department of Educational Research and Testing at Florida State University. Twelve hours of training was given to the experimental group over a two-day period prior to their beginning work on the solutions to the problems involved in "Microville." To begin, each member was asked to take a forty item self-rating scale in order to help him assess his entering skills as a group member. This exercise, as well as the other training exercises used by Stakenas during the twelve hours of group process training, can be found in Appendix B. After everyone had completed the scale, Stakenas discussed with the group the objectives of group process training. These were to learn: (1) how to become a more effective group member; (2) how to communicate effectively with others; (3) group problem-solving skills; (4) how to help the group make decisions; (5) the needs of yourself in relation to those of the group and (6) how you relate to authority figures. The Self-rating Scale, he said, contained the operationalization of the training objectives. The basic groundrule of keeping the discussion in the "here and now" rather than in the "then and there" was explained. The rest of the three hour first session was turned over to the group who were forced by the trainer's silence to evolve their own discussion topics. When the group really got "hung up" or needed some interpretation of the process as it was evolving, Stakenas would intervene.

The second training session was begun by again taking the Self-rating Scale. The rest of the session revolved around learning how to communicate more effectively with each other. Topics such as non-verbal cues, accurate message sending and receiving, and how one relates to authority figures were dealt with by the group. Also touched upon by the group was the question of whether the training they were getting could be transferred to the course work in ADT 548. Periodically, Dr. Stakenas would ask the group to assess its own progress and thus help them become more aware of the process they were undergoing.

At the beginning of the third training session each individual received a one-page summation of rules developed by Jay Hall designed to facilitate group consensus and entitled, "Group-Decision Instructions" (1971, p. 54). After each group member had read the handout, copies of three suggested group tasks were given to each member with explicit directions on how the group was to proceed in selecting a task to be dealt with by the group. As the group worked through their selected task, Stakenas assumed the role of "intervener" when the previous group process training was not being utilized by the group. Thus, the training was made more explicit to the task. The entire six hours of the second day's session was devoted to the group's working through their selected tasks with appropriate process intervention by Stakenas.

The extent to which the group was able to utilize the group process training in the process of solving the problems of "Microville" was ascertained by two raters using Jahns' Performance Rating Instrument. More detail on this instrument is given in the next section.

Both the experimental and control group received the same instruction with regard to program development principles. Both were given the same amount of time in which to produce a written group product for each phase of program development which required it.

Instrumentation

Data on the three major experimental variables, quality of group process, quality of the group products, group cohesiveness, and gain in individual achievement were collected by means of (1) Jahns' Performance Rating Instrument, (2) Group Product Evaluation Rating Scales, (3) University of Oklahoma Group Cohesiveness Scale and (4) Post-Test of Program Development, respectively. The properties of these instruments are discussed in this section. Copies of these four instruments are found in Appendices C, D, E, and F, respectively.

Jahns' Performance Rating Instrument

The actual analysis of the quality of group interaction of the experimental and control groups was made by using a group rating instrument developed by Dr. Irwin Jahns (1961). In devising this instrument Jahns made a careful study of group dynamics literature concerned with interaction analysis. He concluded from this survey that two fundamental rating systems have been developed by social psychologists to study the characteristics of groups. In the first system the rater attempts to place the individuals being studied along a scale to represent the extent to which they exhibit behavioral characteristics such as dependability, cooperativeness and leadership. This system, however, is faulted by Jahns in that all too often the rater does not have sufficient information to make the rating; and the inter-rater reliability of the instrument is disappointingly low. Jahns further reports that in an effort to overcome the limitations possessed by the first system, psychologists have turned increasingly to the minute categorization of small behavior units. This system appeared to Jahns to be more satisfactory than the first in suggesting reliable methods of measuring the quality and quantity of a group's interaction (Jahns, 1961, pp. 21-22). On the basis of these observations, Jahns drew heavily on Benne and Sheats (1948, pp. 41-49) to establish his performance rating instrument. However, after testing the instrument, Jahns prepared the revised list of performance categories as illustrated in Table 3 (1961, p. 37). It was this revised instrument that was utilized in this study.

As can be seen by looking at Table 3, Jahns' instrument utilizes three performance categories: (1) Task oriented; (2) Group oriented; and (3) Self-oriented. Contributions under the task oriented category are related to the task which the group is deciding to undertake or has undertaken. Their purpose is to facilitate and coordinate group effort in the selection and definition of a common problem and in the solution of that problem. The group-oriented classification involves those contributions

TABLE 3.--Performance Categories for Classification of Member Contributions

Task Oriented	Group Oriented	Self-Oriented
1. Gives suggestion or direction	1. Greets	1. Wonders
2. Gives information or opinion	2. Kids	2. Propogates wondering
3. Seeks information or opinion	3. Compromises	3. Seeks sympathy
4. Seeks suggestion or direction	4. Harmonizes	4. Attacks
5. Repeats, clarifies, restates	5. Encourages	5. Defends self (and self sympathy)
6. Orients		6. Plays
7. Summarizes		

which aid in the functioning of the group as a group. The self-oriented category includes those contributions which are directed toward the satisfaction of the group member's individual needs. Their purpose is to satisfy some individual goal which is relevant neither to the group task nor to the functioning of the group as a group. To aid in the rating of contributions Jahns further analyzed these categories into sub-classifications as had been previously suggested by Benne and Sheats. These are listed in Table 3. A further discussion of each of these sub-classifications can be found in Benne and Sheats (1948, p. 42-46).

Jahns' category system was chosen over Bales' Interaction Process Analysis because it was felt by this investigator that Jahns' instrument was more directly relevant to the hypotheses under investigation in this study. It offered the additional advantage of a less complex category system which made training of the raters an easier process. In addition, the fact that Jahns was available to counsel the writer in the use of his instrument offered incalculable benefits.

Jahns' instrument was slightly modified by this writer to include space for the written transcription of the interaction of the groups under investigation. Each rater used both the written transcription of each group session and the sound recording to rate each member's contribution. A contribution was considered as a simple sentence which conveyed a complete thought. When a sentence was complex a separate score was given each of its component simple parts. Each such contribution was placed in one of the three listed categories according to its nature and orientation.

Group Product Evaluation Scales

The Group Product Evaluation Scales were developed for the study in order to measure the quality of each

Council's products. The criteria used to measure each product's quality were derived from a content analysis this researcher had made of all products developed by previous Councils engaged in ADT 548. Rating scales were then developed for each product using these criteria. These rating scales were subjected to further scrutinization by two professors of the Department of Adult Education at Florida State University. Revisions were made based on their feedback to the end of removing any ambiguities or misunderstanding in the wording of each criterion. This process was especially useful in that the two aforementioned professors also served as the group product judges. See Appendix D for final versions of the Group Product Evaluation Scales.

University of Oklahoma Group Cohesiveness Scale

The Group Cohesiveness Scale was adapted from one developed by the University of Oklahoma to measure group cohesiveness which is reflected in such things as member satisfaction with the group, resistance to leaving the group, and other positive reactions to the group (Shaw, 1971). It consists of six questions and for each the subject is asked to circle one of nine points ranging from very positive to extremely negative with the fifth point being neutral. This rating scale has been used by the staff at the University of Oklahoma in connection with

Phase II, "Human Relations and Communications" Seminar of its Rehabilitation Services Administration Management Training Program since July, 1965. James A. West, Coordinator of the RSA Management Training Program, reports that although no specific figures are available this instrument has been found to have high reliability and validity over the seven years it has been used at the University of Oklahoma.

Post-test of program development

A post-test of program development involved in the content of the course was used to measure individual gain in achievement. This test contained items which were essentially the same as those on the pre-test. The items on this test had been administered to a previous ADT 548 class and found to be a valid measure of the content of the course. Individual gain in achievement was ascertained by subtracting the score each subject had made on the pre-test from that which was made post-test.

Data Collection

The procedures involved in this study will be discussed under four sub-headings: (1) General Procedures; (2) Group Process Data; (3) Group Product Ratings; and (4) Administration of Post-Instruments.

General procedures

The entire experiment ran for an eleven week duration from the first class meeting of ADT 548 to the last session during which the post-test instruments were administered. In detail, both the trained and untrained groups met together for instruction and directions on how to proceed with the assigned task. During the joint Council meetings, copies of the criteria by which each group's product would be evaluated were given to each member. Then each group moved to separate locations to come up with solutions in the form of a group product to the problems involved in the simulation game, "Microville." Each Council was allowed to meet only during the regularly scheduled class meeting time to assure uniformity of conditions under which the products were produced. Due to the differing nature of the required products, differential amounts of time were given to complete them. Each Council had two class meetings to come up with the philosophy-policy product; one for devising of a strategy to identify Microville's needs and wants; three class sessions for the determination of needs and wants and for the development of a criterion system for assigning priorities for these needs and wants; one session for developing community-level objectives and one session for analyzing a community-level objective. At each group session an observer was present in the person of either the instructor or this researcher who alternated with each group. The observer's role was limited to answering procedural questions. Since he took no active role in the discussion, he was not counted as a member. Although all group meetings were recorded with the knowledge of the participants, the purpose of the study was screened from them.

Group process data

The study of the group processes of the control and experimental groups was based on the written transcriptions prepared from the tape recordings of the group meetings and the tape recordings themselves. The reliability of using tape recordings and transcripts for studying small group interaction was investigated by Ross (1960). He concluded that the use of tape recordings and transcriptions are equally as reliable as data based on the direct observations of groups. The quality of each group's interaction was analyzed by two raters using Jahns' Performance Rating Instrument.

The raters were chosen because of their previous experience in rating group process and because of their extensive course work in the area of group dynamics. Prior to their rating of experimental data, this experimenter introduced both raters to Jahns' Instrument and familiarized them with his category system. Then each was given a duplicate recording and transcription of one of the group process training sessions during which the group was working on an assigned task and asked to analyze the interaction. Not only did this serve to further orient the raters to Jahns' instrument but also to the voices on the cassette recording. This was followed up by a two hour discussion of the reasons each had rated the interactions as he did. This was an attempt to make the guidelines of each category clearer. Each was then given another recording and transcription of another portion of the training session. After each had returned his rating to this researcher, another training meeting was held to discuss the discrepancies in the ratings and to reach consensus on the ratings.

Following this initial rater training period, which was approximately eight hours in length, each rater was given duplicate cassette tapes and written transcriptions of the first Council meetings of the experimental and control groups. When both had returned their individual ratings, another meeting was held to go over with each rater where their ratings differed and to reach consensus on them. This meeting actually served as another training session as more definitive guidelines between categories were worked out. At the conclusion of this session, duplicate recordings and transcriptions of the second Council meeting of both groups were given to the raters to be analyzed. The above procedure was the one followed for all subsequent data involving group interaction. After collection of the data was completed and consensus had been achieved on all ratings, the number of contributions in each category was tallied for each individual for the eight sessions in which he participated and for each group as a whole. These results as analyzed can be found in the next chapter.

Group product ratings

Two professors of Adult Education at Florida State University were selected to assess the quality of the group products developed by the control and experimental groups. Prior to their rating the groups' products involved in the research, each was given a group product developed by a Council in a previous ADT 548 class with its appropriate evaluation scale.. The ratings were compared in a meeting with the experimenter and the two judges. These meetings served two purposes: (1) Assumptions that each judge was making about each of the criteria were made explicit; and (2) This experimenter received input as to how the evaluation scale developed for each product might be improved.

Subsequent to the above meeting, each judge was given a copy of the experimental and the control group's products along with the revised evaluation sheet for each. Each judge evaluated the products separately and then met with the researcher to arrive at consensus on their ratings of product quality. This was the procedure followed for each of the five group products. In each case, consensus on the product ratings was achieved. The results of the analysis of these data will be found in the next chapter.

Administration of post instruments

The last class session of ADT 548 was spent exclusively in the process of administering the University of Oklahoma Group Cohesiveness Scale and the Post-Test of Program Development and Evaluation to members of both the experimental and control groups. The Group Cohesiveness Scale was administered first so as to prevent its results from being contaminated by the possible anxiety that might be aroused by the post-test. The results of the analysis of these data can be found in the next chapter.

CHAPTER V

ANALYSIS OF DATA

This chapter discusses the operations which transformed the raw data into a form which meaningfully addressed the research hypotheses of this study. It should be noted that the minimum level of significance considered for this study was .05.

Research Hypotheses Testing

A main concern of this study was to determine whether group process training had any effect on the quality of group interaction. This concern was observed in hypotheses 1, 2 and 3.

1. A group which has received group process training will evidence a significantly greater distribution of participation among its members than a group which has not received group process training.

2. A group which has received group process training will make a significantly smaller percentage of self-oriented contributions than will a group which has not received group process training.

3. A group which has received group process training will make a significantly higher percentage of group-oriented contributions than will a group which has not received group process training.

Hypotheses 1, 2 and 3 were tested as follows: The responses made by each individual in each group session were categorized by the trained raters as either task, group or self-oriented. These categorized responses were totaled by individual and by group for each session. Hypothesis 1 was concerned with whether the trained group would evidence a more even distribution of its member contributions over the group sessions than would an untrained group. In other words, would the trained group members' contributions show less variance than would those of the untrained group? This hypothesis was tested by first tallying the number of contributions over all three categories for each individual for the eight sessions in which he participated. If a subject did not attend one of the meetings, his score was corrected for the eight sessions by determining his characteristic interaction rate in each category and adding this to his total category scores. The characteristic interaction rate is defined as the number of acts in each category emitted by an individual over a specific period of time. According to Borgatta and Bales, each group member can be regarded as having a characteristic rate of interaction which is an inverse function of the characteristic rates of his co-members (1953, p. 302). To test for the significance of the difference between two variances of the member contributions of the trained and untrained groups, the F-test was utilized. The F-test was appropriate because we are testing variances of two independent samples of scores which can be assumed to have approximately normal distribution. According to Ferguson (1966, pp. 164-166) the significance of the difference between two variances may be determined by:

$$F = \frac{S_B{}^2}{S_A{}^2}$$

$$S_A{}^2 = \frac{\left(\sum_{i=1}^{a} A_i{}^2\right) - a\,\bar{A}^2}{a - 1}$$

$$S_B{}^2 = \frac{\left(\sum_{i=1}^{b} B_i{}^2\right) - b\,\bar{B}^2}{b - 1}$$

a = number of members in Group A

A_i = score for members in Group A

b = number of members in Group B

B_i = score for members in Group

The results of the F-Test appear in Table 4.

TABLE 4.--Comparison of the Dispersion of Contributions between Trained and Untrained Groups by Session and Total Using F-Test

Group Session Number	Trained $S_A{}^2$	Untrained $S_B{}^2$	F	df	Sig.	Direction
1	583.49	5753.64	9.86	(7,6)	$p<.01$	A<B
2	6620.29	12692.29	1.92	(7,7)	NS	A<B
3	3709.14	8229.86	2.22	(7,6)	NS	A<B
4	3588.81	47215.81	13.16	(7,6)	$p<.01$	A<B
5	2263.98	61058.58	26.97	(5,6)	$p<.01$	A<B
6	2040.56	13101.19	6.42	(7,6)	$p<.05$	A<B
7	3512.33	5495.33	1.56	(7,6)	NS	A<B
8	7148.07	27441.65	3.84	(7,5)	$p<.10$	A<B
Total	68866.04	518802.32	7.53	(7,7)	$p<.01$	A<B

*Absentee members scores adjusted to be equivalent to an 8 session total.

An inspection of Table 4 shows that for each of the eight group sessions, the variance in the dispersion of contributions was less for the Trained Group. However the differences were non-significant at the .05 level for four of the sessions. In looking at the eight sessions as a whole and when the absentee members responses were adjusted to be equivalent to an eight-session total, as described above, the differences between the variances in the contributions of the trained and untrained groups was significant at the .01 level. Thus, hypothesis 1 was supported by the data.

Hypothesis 2 was concerned with whether the trained group would make fewer self-oriented responses than would the untrained group. Hypothesis 2 was tested as follows: The number of self-oriented contributions was tallied for each individual for each of the eight sessions in which he participated. Then the individual responses in this category were summed for each of the sessions to get a group total. Since the total number of contributions was not equal in both groups due to a number of factors including differential amounts of time for coffee breaks, the raw scores per session of each group were converted to percentages. These percentages were ranked and the rank sums for the groups were analyzed for significant difference using the Wilcoxon Rank Sum Test. This test was selected since it was appropriate for analysis concerned with comparing two independent samples of non-normal data (Wilcoxon and Wilcox, 1964, p. 78). The results of this analysis appear in Table 5.

TABLE 5.--Comparison of Trained and Untrained Groups on Self-Oriented Contributions Using Wilcoxon Rank Sum Test

Group Session Number	Percentage of Self-Oriented Contributions	
	Trained(A)	Untrained(B)
1	0	6.47
2	1.08	3.12
3	.22	4.98
4	.65	3.96
5	0	8.93
6	.91	5.33
7	0	3.73
8	0	7.13

N*=8 M**=8 W***=36 Sig: $p < .005$ Direction $A < B$

N* - Number of Sessions for Group A
M** - Number of Sessions for Group B
W*** - Rank Sum for Group A

An inspection of the data in Table 5 indicates that for every session, the trained group made a smaller percentage of self-oriented contributions and that over the eight group sessions, this difference was significant at the .005 level.

Hypothesis 3 was concerned with whether the trained group would make a higher percentage of group-oriented contributions than would an untrained group. This hypothesis was tested as follows. The number of group-oriented responses was totaled by individual and by group for each session. These per session raw scores of each group were then converted into percentages for the reason noted above. These percentages for both the trained and untrained groups were ranked and the rank sums analyzed for significance. Because of the nature of the data, the Wilcoxon Rank Sum Test was again used for this purpose. The findings are presented in Table 6.

TABLE 6.--Comparison of Trained and Untrained Groups on Group-Oriented Contributions Using Wilcoxon Rank Sum Test

Group Session Number	Percentage of Group-Oriented Contributions	
	Trained(A)	Untrained(B)
1	36.7	16.1
2	34.[illegible]	20.8
3	31.7	23.1
4	30.2	18.4
5	24.5	18.4
6	31.1	18.9
7	24.8	18.0
8	30.3	26.5
N*=8 M**=8 W***=98 Sig: p<.005 Direction A>B		

N* - Number of Sessions for Group A
M** - Number of Sessions for Group B
W*** - Rank Sum for Group A

An inspection of the data in Table 6 indicates that for every session, the trained group made a higher percentage of group-oriented contributions; and that over the eight group sessions, this difference was significant at the .005 level. Thus hypothesis 3 was confirmed.

Another main concern of this study was whether the quality of the solutions to problems as evidenced in the group products developed by the trained group would be significantly higher than those developed by the untrained group. This concern was addressed in hypotheses 4, 5, 6, 7, and 8.

4. A group which has received group process training will product a significantly higher quality "Philosophy-Policy" product than will a group which has not received group process training.

5. A group which has received group process training will produce a significantly higher quality "Strategy" product than will a group which has not received group process training.

6. A group which has received group process training will produce a significantly higher quality "Criterion System" product than will a group which has not received group process training.

7. A group which has received group process training will produce a significantly higher quality "Community-Level Objectives" product than will a group which has not received group process training.

8. A group which has received group process training will produce a significantly higher quality "Analysis of a Community-Level Objective" product than will a group which has not received group process training.

These hypotheses were tested by analyzing the data obtained from the consensus scores of the two judges for each of five products developed by the trained and untrained groups. Utilizing the above scores on each of the products, inter-group analyses were computed for the trained and untrained groups to check for differences between the quality of the products. These differences were analyzed for significance using the Wilcoxon Matched Pairs Signed-Ranks Test. This test was selected since it was appropriate for analysis concerned with comparing two related samples yielding difference scores which can be ranked in order of absolute magnitude (Siegel, 1965, p. 78). The results of this analysis appear in Table 7.

TABLE 7.--Comparison of Quality of Group Products between Trained and Untrained Groups Using Wilcoxon Matched Pairs Signed-Ranks Test

Product	N*	M**	T^-	T^+	Sig	Direction
Philosophy-Policy	16	11	25	40.5	NS	
Strategy	7	6	0	21	$p<.025$	A>B
Criterion System	12	12	0	78	$p<.005$	A>B
Community-Level Objectives	11	11	0	66	$p<.005$	A>B
Analysis of Community-Level Objectives	12	11	12	54	$p<.05$	A>B

N* - Number of questions
M** - Number of nonzero questions
T^- - Sum of Ranks of Negative Differences between Criterion Scores
T^+ - Sum of Ranks of Positive Differences between Criterion Scores

An inspection of Table 7 indicates that for each of the group products, the difference was in the direction hypothesized. In the case of the philosophy-policy product, the difference was not significant. However, for the four other group products, the trained group produced a higher quality product than the untrained group. The differences were significant at levels ranging from .05 to .005. Thus, although hypothesis 4 was not confirmed; 5, 6, 7, and 8 were supported by the data.

Another concern in this investigation was to determine whether the trained group would evidence significantly greater group cohesiveness than would the untrained group. This concern was addressed in research hypothesis 9.

> 9. A group which has received group process training will evidence significantly greater group cohesiveness than a group which has not received group process training.

This was tested by analyzing the data obtained from the University of Oklahoma Group Cohesiveness Scale which had been administered to both groups. Each member's score was computed by summing his individual numbered response to each of the seven questions on the Group Cohesiveness Scale. These scores for each member in the trained and untrained groups were than ranked and their rank analyzed for significant difference using the Wilcoxon Rank Sum Test. The results of this test appear in Table 8.

TABLE 8.--Comparison of Trained and Untrained Groups on Group Cohesiveness Using Wilcoxon Rank Sum Test

	Scores on Group Cohesiveness Scale	
Member Number	Trained(A)	Untrained(B)
1	48	34
2	35	31
3	46	30
4	47	42
5	44	40
6	44	47
7	45	43
8	47	47

N*=8 M**=8 W***=85 Sig: p .05 Direction A B

N* - Number of Individual Scores in Group A
M** - Number of Individual Scores in Group B
W*** - Rank Sum for Group A

An inspection of Table 8 reveals that the mean rank of the scores of the trained group is significantly higher than that of the untrained group at the .05 level. Thus, hypothesis 9 was confirmed.

Still another concern of this study was in the comparison of the gain in achievement in course content between individuals in the trained group and those in the untrained group. This concern was expressed in hypothesis 10.

10. Individuals in a group which received group process training will exhibit significantly greater gains in achievement in course content than will individuals in a group which has not received group process training.

Hypothesis 10 was tested as follows. Each individual's score on the Pre-Test of Course Content was subtracted from his score on the Post-Test to determine his individual point gain achievement. These "gain" scores were ranked and the rank-sums for the groups analyzed for significance utilizing the Wilcoxon Rank Sum Test. The results of this data analysis appear in Table 9.

TABLE 9.--Comparison of Gain in Achievement between Individuals in a Trained Group and Individuals in an Untrained Group Using Wilcoxon Rank Sum Test

	Individual Gain in Points on Post-Test of Course Content	
Member Number	Trained(A)	Untrained(B)
1	28	9
2	17	-1
3	10	14
4	11	3
5	13	9
6	10	11
7	5	10
8	19	19

N*=8 M**=8 W***=81 Sig: NS

N* - Number of "Gain" Scores in Group A
M** - Number of "Gain" Scores in Group B
W*** - Rank Sum for Group A

An inspection of Table 8 indicates that although the mean rank of the difference in "gain" scores was in the direction predicted, the difference was not significant at the .05 level. Thus, hypothesis 10 was not confirmed.

CHAPTER VI

SUMMARY, CONCLUSIONS AND IMPLICATIONS

The contents of this chapter are presented in three sections: (1) Summary of the Study, (2) Conclusions and (3) Implications.

Summary of the Study

The salient aspects of this study are summarized as: The Study and Its Objectives, Theoretical Considerations, Research Procedures and Findings of the Study.

The study and its objectives

In recent years there has been a blugeoning of research studies indicating that there are many factors involved in the interaction process which inhibit the effectiveness of groups. Research findings are relatively clear regarding the skills which must be performed by group members if a group is to utilize all the resources available to it. But practical experience in working with groups reveals that group members seldom employ skills even remotely resembling those suggested by research as essential in maximizing group effectiveness. Thus, it appeared reasonable to this writer that the achievement of group effectiveness might be facilitated by training a group in the task and group maintenance functions that must be performed if a group is to be optimally productive. Many studies have shown the efficacy of group process training in bringing about personal change and stimulating individual gains in sensitivity, open-mindedness, and self-insight. Few, however, have been conducted indicating what utility these changes have for improving the problem solving abilities of groups.

Based upon previous research, then, plus considerations of the import that this study might have in an era where groups are increasingly being called upon to solve the problems of our time; this writer determined the need for research aimed at investigating the role of group process training in maximizing the effectiveness of groups. Consequently, this study focused upon: (1) Comparing the quality of interaction of a group which had received group process training with the quality of interaction of a group which had not received the training; and (2) Comparing the quality of solutions to problems produced by a group which had received group process training with those produced by a group which had not received the training. In addition, the study was designed to determine whether a group which had received training in group processes would evidence greater group cohesiveness than would a group which had not received the training. Finally, an effort was made to determine if the individuals of a group which had received the group process training would make higher gains in achievement on a test of course content than would the individuals in a group which had not received the training.

The following research hypotheses were used to guide and direct this study:

1. A group which has received group process training will evidence a significantly greater distribution of participation among its members than a group which has not received group process training.

2. A group which has received group process training will make a significantly smaller percentage of self-oriented contributions than will a group which has not received group process training.

3. A group which has received group process training will make a significantly higher percentage of group oriented contributions than will a group which has not received group process training.

4. A group which has received group process training will produce a significantly higher quality "philosophy-policy" product than will a group which has not received group process training.

5. A group which has received group process training will produce a significantly higher quality "Strategy" product than will a group which has not received group process training.

6. A group which has received group process training will produce a higher quality "Criterion System" product than will a group which has not received group process training.

7. A group which has received group process training will produce a significantly higher quality "Community-Level Objectives" product than will a group which has not received group process training.

8. A group which has received group process training will produce a significantly higher quality "Analysis of a Community-Level Objective" product

than will a group which has not received group process training.

9. A group which has received group process training will evidence significantly greater group cohesiveness than will a group which has not received group process training.

10. Individuals in a group which has received group process training will exhibit significantly greater gains in achievement in course content than will individuals in a group which has not received group process training.

Theoretical considerations

The theoretical foundation of this study was in a social-psychological theory of interaction which suggests that the interaction process contains potentially inhibiting factors which may prevent a group from optimally utilizing its available member resources. A basic assumption of this study was that in order to fully comprehend the interaction process, it would be necessary to explore the total psychological field. This would combine knowledge of relationships within and outside of groups, plus all the cultural, socio-economic and psychological forces which impinge upon and influence the interaction of the members of a group. As it was not feasible to study the total psychological field, a simple theory dealing with relatively few major variables which could be measured was used.

Research Procedures

Assigning individuals to groups

The sixteen individuals who registered for Program Development and Evaluation (ADT 548) during the winter quarter of 1972 at The Florida State University constituted the sample selected for this study. Registrants were matched and randomly assigned to two groups of eight members each based on their scores on (1) Rokeach's Dogmatism Scale, Form E; (2) a questionnaire regarding their previous group process training and/or experience in groups, and (3) a Pre-Test of Program Development and Evaluation. Through this procedure the researcher attempted to control for those factors identified in the research literature as influencing group effectiveness other than those which would be explicitly treated.

Treatment

The experimental group received twelve hours of group process training from an experienced trainer. This training took place over a two-day period prior to their beginning work on the solutions to the problems submitted to them.

Data collection: group process

After having received training in the use of Jahns' Performance Rating Instrument, two raters categorized the verbal interaction of the control and experimental groups from the written transcriptions prepared from the tape recordings of the group meetings, as well as the tape recordings themselves. Differences in the categorizations were resolved through discussions with the raters. Hence, consensus was achieved on all the group interaction ratings.

Data collection: group products

Two professors of Adult Education at The Florida State University assessed the quality of the products produced by the trained and untrained groups according to criteria developed by this investigator. Each judge rated the products separately. They they met with the researcher to reach consensus on their ratings of product quality.

Data collection: group cohesiveness

Data on group cohesiveness were collected at the last class session of ADT 548. This writer collected these data by administering the University of Oklahoma Group Cohesiveness Scale to the members of both the trained and untrained groups.

Data collection: achievement

The achievement data were collected immediately before implementation of the study at the first class meeting and just prior to its conclusion at the last class meeting. The investigator collected these data by administering a pre and post-test covering the content of the course: Program Development and Evaluation.

Data analysis

After the collection of the interaction data was completed, the number of contributions over all three categories was summed for each individual in each group for the eight sessions in which he participated. The responses of individuals who were absent from one of the group sessions were corrected by determining their characteristic interaction rate in each category and adding this to his total. The F-Test was used to test for a significant difference between the two variances of the member contributions of the trained and untrained groups.

To compare the self-oriented and group-oriented contributions of the trained and untrained groups, the responses per session of each group in each category (self and group, respectively) were converted to percentages. These percentages were ranked and the rank sums for the groups analyzed for significant difference using the Wilcoxon Rank Sum Test.

Data were also generated relating to the quality of the products produced by the trained and untrained groups. Using the consensus scores of the two judges, differences in the quality of the products were analyzed for significance using the Wilcoxon Matched Pairs Signed Ranks Test.

Data concerning group cohesiveness was analyzed by ranking each individual's group cohesiveness score in each group. The rank sums for the trained and untrained groups were then analyzed for significant difference using the Wilcoxon Rank Sum Test.

Still another analysis was conducted comparing the data regarding gain in achievement in course content between individuals in the trained group and those in the untrained group. Each individual's gain score was ranked and the rank sums of both groups analyzed for significant difference using the Wilcoxon Rank Sum Test.

The Findings

The findings in this study are summarized in terms of the research hypotheses as follows:

1. A group which has received group process training will evidence a significantly greater distribution of participation among its members than a group which has not received group process training.
2. A group which has received group process training will make a significantly smaller percentage of self-oriented contributions than will a group which has not received group process training.
3. A group which has received group process training will make a significantly higher percentage of group oriented contributions than will a group which has not received group process training.

There was a significantly greater distribution of participation among the members of the trained group. The trained group made a significantly smaller percentage of self-oriented contributions than did the untrained group.

The group which received group process training also made a higher percentage of group oriented contributions.

4. A group which has received group process training will produce a significantly higher quality "Philosophy-Policy" product than will a group which has not received group process training.

5. A group which has received group process training will produce a significantly higher quality "Strategy" product than will a group which has not received group process training.

6. A group which has received group process training will produce a significantly higher quality "Criterion System" product than will a group which has not received group process training.

7. A group which has received group process training will produce a significantly higher quality "Community-Level Objectives" product than will a group which has not received group process training.

8. A group which has received group process training will produce a significantly higher quality "Analysis of a Community-Level Objective" product than will a group which has not received group process training.

With the exception of the Philosophy-Policy product, the group which received group process training produced significantly higher quality solutions to problems submitted to it as evidenced by its group products than did the group which did not receive group process training.

9. A group which has received group process training will evidence significantly greater group cohesiveness than a group which has not received group process training.

There was a significant difference in group cohesiveness between the trained and untrained groups with the difference being in the direction hypothesized.

10. Individuals in a group which received group process training will exhibit significantly greater gains in achievement in course content than will individuals in a group which did not receive group process training.

There was no significant difference in gain in achievement between individuals in the trained group and those in the untrained group.

Conclusions

Based on the procedures outlined above and the findings reported, several conclusions are drawn in regard to this study. However, before discussing any conclusions, there are limitations to this investigation that should be kept in mind when interpreting the findings. To begin, only registrants of one graduate course in adult education at one university made up the sample population. Therefore, the findings may be applicable to other individuals or groups only in so far as they have characteristics that are similar to the participants in this study.

Another limitation may be in the special nature of the problems submitted to each group. Not all problem situations constitute interdependent multi-stage tasks. In addition, research has shown that different externally imposed problems place different demands on a group. Thus, generalizations based on the obtained results may only apply to problems of a similar nature to those employed in this study.

~~As~~ alluded to earlier in the section on theoretical also, cons~~ide~~rations, only a few of the many variables that make up the total psychological field of an individual were considered in this study. Hence, several variables which were unaccounted for may have influenced the procedures and the outcomes of this research. For example, it is a frequently reported phenomenon that one's participation in a training program sometimes results in heightened motivation. This factor was only partially controlled in this study. It was assumed by this investigator that any motivational differences between trained and untrained groups would be dissipated by the fact that individuals in both groups were enrolled in a graduate course and needed a good grade. To what extent this assumption was valid is not now known.

Another qualification would seem to stem from the nature of the training itself. The present study employed twelve hours of group process training prior to the trained group engaging in its problem tasks. Information as to whether the same effects could be achieved with other types of training strategies is not available from this investigation.

Finally, despite the efforts of this writer to consciously control for the possible effects of her own biases, it is still possible that this variable influenced the results. Similarly, the several persons who assisted with the data collection could have unconsciously allowed their biases to influence their judgments relative to the quality of the group interaction and/or the group products.

With these limitations in mind, and on the basis of the findings in this study, the following conclusions were reached:

1. Group process training does contribute to the quality of group interaction as evidenced by a greater distribution of participation among the group members, a smaller percentage of self-oriented contributions, and a greater percentage of group oriented contributions.
2. Group process training does contribute to the quality of group problem solving as evidenced in the quality of the group products with the exception of the "Philosophy-Policy" product.
3. Group process training does contribute to the amount of group cohesiveness.
4. Group process training was not found to be related to gains in course content achievement.

Implications

Implications for theory

A basic assumption in this study derived from the social psychological theory that group members have individual needs which, if not met, inhibit the effectiveness of the group. Therefore, it was proposed that training in group membership skills would enable the group to better meet the individual needs of its members such that the group would interact more effectively.

This theoretical view was supported to the extent that a significant relationship was found between group process training and the quality of group interaction. The group which received group process training made fewer attempts to satisfy their own individual needs which were negatively oriented to the needs of others in their group as evidenced by a smaller percentage of self oriented contributions. In addition, members of the trained group expressed greater concern about the feelings and opinions of their fellow group members. This can be seen in their larger percentage of group oriented contributions. The group which received group process training also exhibited a more even distribution of contributions among its members. This seems to indicate that they were employing skills/ practices designed to facilitate the expression of ideas and opinions from all the members such that they were making more effective use of their member resources.

A second assumption came from the theoretical view that group process training would provide a group with the necessary skills so that it could effectively integrate its task and interpersonal concerns. It was therefore proposed that group process training would release the group's available resources which could then be devoted to producing qualitatively superior solutions to problems submitted to it.

This theoretical point of view was supported to the extent that four of the five products developed by the trained group were significantly superior in quality to those produced by the untrained group. The lack of significant relationship between group process training and the quality of the Philosophy-Policy product may reflect the differential nature of this product than that represented by the other products. It deals more than the other four with the beliefs and values of the group members regarding adult education. Another explanation might be that the evaluation scales used to rate this product may not have possessed the sensitivity necessary to detect the qualitative differences between the two products. Then, too, this was the first product dealt with by the trained group. They may have needed more practice in the group membership skills they obtained from the training.

A third assumption derived from the theoretical view that if members of a group possess the group maintenance skills necessary to satisfy the interpersonal needs of their fellow members, there would be less frustration and member dissatisfaction with their group. Therefore, it was proposed that group process training would result in a higher level of group cohesiveness.

This theoretical viewpoint was supported in that a significant relationship was found between group process training and a higher level of group cohesiveness.

A fourth assumption derived from the theoretical view that a group trained in effective membership skills would be able to resolve the socio-emotional needs of its members which might be expected to interfere with learning. Therefore, it was proposed that individuals in a group which had training in group processes would make greater gains in achievement of course content than would a group which had not received the training. This theoretical viewpoint was not supported to the extent that the trained group did not evidence significantly greater gains in achievement than the untrained group. A possible explanation is that training in group membership skills has negligible effects on content learning. One alternate explanation is that the instrument used to measure achievement in course content was not sufficiently sensitive to detect achievement differences between the individuals in the two groups. Still another explanation for the obtained results may lie in the fact that the study participants were enrolled in a course for graduate credit and the post-test was "billed" as a final exam. This may have bolstered the motivation of individuals in both groups to study for the test; thereby dissipating any differences in favor of the experimental group.

The findings of this research contribute to the existing body of group dynamics literature by not only suggesting a training strategy that works with a variety of problems; but also by providing experimentally grounded knowledge as to what variables in group interaction are affected by training. These findings thus support the main theoretical assumption of this study that training in group processes can alleviate the factors which inhibit group effectiveness.

Implications for further research

This study revealed several implications for research in regard to methodological considerations when conducting studies involving groups. One problem indicated by this study was the gap between what was said in the group and what actually was written up in the group product. This suggests that the role of recorder in a group is a pivotal one. His level of competence may account for some of the variability in the quality of a group's product. Similarly, the quality of a group's product may reflect not only the quality of a particular solution to a problem; but also the writing ability of the group members. The group product judges reported difficulty in separating the quality of what was written from the way it was written. Such methodological problems should be recognized by other investigators who are contemplating using the quality of group products as a criterion of group effectiveness.

Another methodological problem revealed in this study was in the provision of "like" conditions for the control group. As noted under limitations of this study, just by receiving training a group may experience a sense of heightened motivation which may affect the outcome of the study. Thus, a suggestion to other researchers interested in the effects of group process training would be to provide a placebo type of training experience for the control group to eliminate this confounding variable.

This study has barely touched upon the possibilities of group process training for affecting the performance of a group. The question arises of whether similar results to those reported in the present study could have been obtained with different training strategies. Given the significant superiority of the trained group in this investigation, studies employing training provisions in their designs which focus upon the comparison of different training strategies and the unique effects of training per se would seem to be in order.

Specific suggestions for the conduct of further research other than those stated above are: (1) Increase the sample size; (2) Vary the research setting; (3) Vary the nature of the problems submitted to the groups; and (4) Vary the population characteristics of the study participants. These changes should aid in detecting relationships among the variables and in generalizing from the findings.

Implications for practice

A major practical implication of this study is that individuals who desire the greatest utilization of the problem solving abilities of groups now have a method to help ensure the success of their groups. Group process training has been found to modify group interaction such that qualitatively superior solutions to problems can be produced. This has far-reaching implications given the present trend toward participative management and group problem solving.

As this study reveals, training in group processes will facilitate higher quality group interaction. Much more effort is expended in the direction of supporting the group and much less in meeting individual needs at the expense of the group. More effort is taken to draw out the low participators and thus make their ideas and opinions available to the group. Without group process training participants are largely concerned with the content of the discussion and the importance of process is neglected. It can be inferred from the findings of the present research study that group process training not only induces superior collaborative problem solving, but also greater satisfaction with the solution. Thus, it might be expected that there would be a greater commitment to act upon those solutions. Hence, one of the areas where group process training may have its greatest potential is in the area of community development where the problems dealt with are so cricial and pressing. Here, creative solutions are not enough; there must be a commitment to action.

To conclude, given the increasing involvement of groups in problem solving; the practical question is no longer whether to use groups, but rather how to use them most effectively. It is to this question that this research speaks to most clearly. The major practical implication of this study is that it is possible to maximize the resources that a problem solving group has available to it through the use of group process training.

MEASURING ROLE ACQUISITION BY TEACHER AIDES IN HEAD START CENTERS *

Frederick W. Peck

This paper presents a simple method for measuring the extent of work role acquisition of one group of paraprofessionals (teacher aides) in one type of human service organization (Head Start). As adult educators know so well, much is said and written about the ways that children are somehow transformed with varying degrees of success into acceptable members of society and of society's subsystems. But at the same time very little is said about the process by which adults themselves are subsequently transformed into "even more acceptable" members of society and of certain of their society's subsystems -- particularly the occupational subsystem.

The development of instrumentation to measure the extent of role acquisition of persons in particular occupational categories is a first step in any effort to determine the extent to which certain persons have "learned their jobs". Such instrumentation enables researchers to differentiate between persons who have in fact learned their jobs well and persons who have not. Then having divided incumbents of a position into different categories--e.g. "high role acquirers" vs. "low role acquirers"--it is possible to go on to formulate research questions regarding the process by which the persons acquired their work roles, the agents operative in this process, and so forth. The method for measuring work role acquisition described in this paper grew out of a practical need--i.e. to find a simple way to go into an organization and quickly identify employees who have learned their jobs well and employees who have not.

The Role Acquisition Measure which is the subject of this paper focuses entirely on teacher aides in Head Start. Aides from this particular kind of organization were chosen because 1) Head Start teacher aide tasks are very much the same from center to center; while at the same time 2) Head Start centers are new enough organizational forms not to have established a rigid set of expectations regarding the aide position.

Paraprofessionals in Head Start

Persons who function in human service organizations under the generic title of paraprofessional (aide) are creatures of wide scale disenchantment with traditional methods of service delivery in all areas of the human services. They came to the fore as possible solutions to two separate, but

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for a while allied, concerns of the 1960's.

Simply stated, the first concern was how to supply more services to persons in need. The argument was that the human service professional had over time become burdened with accumulated non-professional duties. Providing non-credentialed paraprofessionals to work with the professional would free the professional to do the work for which he or she had been trained and subsequently hired, thereby increasing the quantity of service. An implication is that professional expertise is sufficient, but bogged down. This may be called the "non-professional" model of aide utilization (1). Teacher aides in public schools, home health aides in public health departments, and casework aides in welfare departments may generally be considered expressions of this model of aide utilization.

The second concern was how to supply better (and therefore different) services to persons in need. This concern was marked by grave reservations regarding the ability of professional services, as presently constituted, to solve basic social problems. New programs were designed to be staffed largely by aides who had earned their credentials "in the street" rather than through traditional middle class channels. An implication is that professional expertise, bogged down or not, is irrelevant. This may be called the "new-professional" model of aide utilization. Neighborhood aides in community action programs and mental health centers may generally be considered expressions of this model of aide utilization.

Holding to both concerns, and likewise committed to combining aspects of both models of aide utilization, some programs emerged with a third strategy. Expert professional and indigenous aides were to join hands and attack a particular social problem together. Functioning as a team, they would involve themselves in problematic situations that necessitated joint problem solving. The professional would bring to this partnership generalized knowledge and diagnostic skills; the aide would bring the insider's ability to understand and interpret client behaviors, and a natural capacity to function as go-between for client and professional. An implication was that professional expertise is essential, but invariably partial. This may be called the "para-professional" model of aide utilization. Teacher aides in Head Start may be considered expressions of this model.

By any measure paraprofessionals are a new occupational category. There is yet to emerge a stereotypical "role of the paraprofessional" to which new paraprofessionals may relate. Established occupations require that new incumbents of a position relate to a role that is generally well defined -- a requirement that places on these individuals the burden of undergoing a process of role acquisition. This process is highly problematic even for those whose positions are well defined. The process is even more formidable for paraprofessionals. There are few established behaviors for the person who enters a paraprofessional position. Her own understanding of her role may have been somewhat influenced by exposure to other aides who are operating under either the non-professional or the new-professional model. More likely she has had no exposure to any other aides at all. She may be the first to occupy the position she presently holds. There is definitely an ambiguity to the role of the teacher aide in Head Start. And this ambiguity may be assumed to have produced a corps of teacher aides whose role acquisition ranges from extensive to minimal.

Role Acquisition

Most of what is known about role acquisition has emerged from the tradition of inquiry known as "socialization" (2). And indeed role acquisition probably constitutes the most important aspect of socialization, at least as it applies to adults (3). In its broadest sense socialization is a process by which people acquire the requisite knowledge, skills, and dispositions to function as members of society (4). In the case of this paper's teacher aides, it is the process by which they are able to learn the expectations of others, go on to accept these expectations, and eventually to fulfill them (5).

What is assumed is that being named a teacher aide does not constitute acquisition of the role of the teacher aide; it simply sets a particular socialization process in motion. Moreover, there are many people in the teacher aide's work setting--director, family worker, nurse, psychologist, cook, bus driver (and beyond her co-workers the children, their parents, and other residents of the community). These people have numerous (and occasionally conflicting) expectations for her. She must continuously work to learn, accept and fulfill the expectations of each one of them (6). But above all she must acquire her role through interaction with the persons with whom she works most closely. And of all these persons, her closest working relationship is with her supervising teacher. The teacher aide's role comes into being as a set of expectations (7), and no one has more expectations for her than her co-habitant of the classroom, the teacher. To measure role acquisition by teacher aides in Head Start is foremost an effort to assess to what extent the teacher aide has learned, accepted, and fulfilled the expectations of her supervising teacher. The Role Acquisition Measure then identifies teacher-pleasing teacher aides.

Role learning. Learning one's role is a first step in role acquisition. The concept of role learning grows out of what some role theorists refer to as a "role perspective" which emphasizes the

> ...controlling power of one's environment [and therefore] reflects a doctrine of limited social determinism. The behavior of the individual is examined in terms of how it is shaped by the demands and rules of others...This per-

> spective does not deny the facts of individual differences, but it does highlight the social determinants that may have entered into creating such differences, and it does focus the role analyst's attention upon the conditions under which the social determinants will be more rather than less influential. (8)

Viewed from this perspective, the learning of role has traditionally gained articulateness by the use of dramaturgical metaphor (9).

> "All the world's a stage,
> And all the men and women merely players:
> They have their exits and their entrances...

(And true to the assumptions of socialization theory),

> ...one man in his time plays many parts...(10).

In this sense a teacher aide in Head Start is stage center. Her role is presented to her as a script to be learned, and her supervising teacher is both a script writer and director. In the language of the role analyst, the teacher is a "role sender" (11), formulating expectations and dispatching them to the teacher aide in the form of "sent roles". The teacher aide is a "focal person", receiving the sent role and fashioning what she hopes is an appropriate behavioral response. The appropriateness of that behavioral response is indicated to the teacher aide by the teacher, who incorporates her evaluation in her next sent role. The process is one of endless recycling, fueled by the aide's need to please and the supervisor's need to control. The script is written on the run; the play unfolds. Role is learned.

But how to measure this learning? Surely the existence of some single, stable "role of the teacher aide" is unlikely, given the above description of role learning. It is more likely that there are as many roles for the teacher aide as there are role senders to send them out. To discern the amount of role learning by a particular teacher aide requires measuring that aide's knowledge of the expectations her own particular teacher holds for her. Teacher aide and teacher must be examined together, received role being compared to sent role. The range of learning is mapped out dyad by dyad.

A recent study by James A. Young (12) identified and validated specific responsibilities that might be performed by the Head Start teacher aide. Utilizing twenty of these responsibilities it was possible to construct instruments to assess both what the teacher aide thinks is expected of her (the Received Role Measure), and what the teacher does in fact expect (the Sent Role Measure). By comparing responses of teacher and teacher aide within a dyad, it indicates the extent to which an individual teacher aide has learned her role.

Role acceptance. Learning one's role is an important first step in role acquisition, but it must be followed by a second: role acceptance. The teacher aide must be able to go beyond objective understanding of the role to subjective compliance with that role. Compliance in its most general sense refers to a relationship between those who have power and those over whom power is exercised (13). In a more limited sense it refers "to the orientation of the subordinated actor to the power implied." (14) Once the role is learned, there is an implicit reaction to that role by the teacher aide. In effect she will begin either to "buy into" or "back off from" the script as learned. If her reaction is negative, the result will be alienation and role acquisition will be stymied. If on the other hand her reaction is positive and she is able to "accept" the learned role, then the result will be commitment: role acquisition can proceed.

What does it mean to "accept" one's role? It means first of all that the teacher aide's orientation to organization efforts to influence her (i.e. power) is positive. Organization efforts may include appealing to authority it is hoped the teacher aide will consider legitimate. It will probably include the use of rewards. And in the case of Head Start it will surely include appeals to instrumental identification with the norms of the organization. If the teacher aide feels that the appeals to authority are indeed legitimate--that is, if what the teacher or director may require of her is felt by the teacher aide to be congruent with her own view of what a supervisor has a right to expect, then the aide may accept the role. If the teacher aide finds the organization's rewards--pay raises, promotions, recognition or whatever--to be congruent with her own needs, then the aide may accept the role. And if the teacher aide finds the values of the organization to be congruent with her own values (and if the responsibilities of her position are congruent with the values of the organization), then the aide may accept the role. In all of these cases the aide is held to be a decision-maker with go/no-go authority. She can stop role acquisition in its tracks, and she can start it up again.

Again, utilizing the same twenty teacher aide responsibilities it was possible to develop an instrument to measure acceptance of role by individual teacher aides (the Role Compliance Measure).

Role fulfillment. The final step in role acquisition is that of role fulfillment. Having learned the role (more or less) and having accepted it (more or less), the teacher aide acts. It is this action, this behavior in role, that is evaluated by the teacher (who sent the role in the first place). The teacher relates the aide's behavior to her own expectations and makes some judgment as to the appropriateness of the behavior. Some degree of role fulfillment or non-fulfillment is duly noted. This notation, as was pointed out earlier, is incorporated in the next sent role.

Extent of role fulfillment then is determined by the role sender--in this case the teacher in the dyad. It was possible to develop a rating form (the Role Fulfillment Measure) to measure this variable of role acquisition, and therefore to be able to ascribe extent of role fulfillment to individual teacher aides.

Summary. Role acquisition is a concept consisting of three variables: role learning, role acceptance, and role fulfillment. It has been possible to measure the extent to which individual teacher aides in Head Start centers possess each of these variables by deriving for each teacher aide a summative score for each of the variables, thereby indicating her position on a scale of role acquisition. The teacher-pleasers can then be identified.

Measuring Role Acquisition

Four instruments were developed to determine extent of role acquisition by teacher aides in Head Start: the Received Role Measure, the Sent Role Measure, the Role Compliance Measure, and the Role Fulfillment Measure--all constructed around twenty of the teacher aide responsibilities validated by Young.

Measuring role learning. To measure role learning -- the first component of role acquisition -- the Received Role Measure and the Sent Role Measure were utilized. The Received Role Measure is incorporated in the longer "Teacher Aide Questionnaire" (Appendix, Item 1). The Received Role Measure (Appendix, Item 2) gives the individual aide an opportunity to identify, on a four point scale, her own understanding of what her supervising teacher expects of her in regard to each of twenty specific aide responsibilities. An example is the first of the twenty aide responsibilities, "Making visits to the children's homes". In conjunction with this responsibility the aide is given the following statement:

THE TEACHER I WORK WITH FEELS THAT THIS IS
RESPONSIBILITY IN WHICH AN AIDE SHOULD...

1.	2.	3.	4.
ot be nvolved.	occasionally be involved.	usually be involved.	always be involved.

(check [✓] one)

[ ]	[ ]	[ ]	[✓]

The teacher aide checks one of the four boxes, thereby indicating the role she has received from her teacher. For example, if she were to check box number 4 (as illustrated above), she would be stating that she has received the following role: "As a teacher aide you should *always be involved* in making visits to children's homes".

The teacher aide then goes on to the second aide responsibility, "Helping prepare and serve the children's food". Again, the same statement (regarding the extent of aide involvement) is given in conjunction with the responsibility. And again the aide checks one of the boxes (1, 2, 3, or 4). In this fashion the aide goes through all of the twenty aide responsibilities, checking box 1, 2, 3, or 4. Having run through the twenty responsibilities, the teacher aide generates twenty different box scores. These twenty box scores, taken in order, are her "received role (involvement) battery." This battery comprises the first half of what will eventually be her "received role battery."

The Received Role Measure continues, repeating the same twenty aide responsibilities. However, it can be seen that in conjunction with this second run-through of the aide responsibilities, the following (different) statement accompanies each of the responsibilities:

GIVEN OUR CENTER'S PRIORITIES, THE
TEACHER I WORK WITH CONSIDERS THIS
PARTICULAR RESPONSIBILITY TO BE...

1.	2.	3.	4.
one of the least important.	somewhat important.	very important.	one of the most important

(check [✓] one)

☐	☑	☐	☐

It is apparent that the purpose of this second half of the Received Role Measure is the same as that of the first half -- to give the aide an opportunity to identify, on a four point scale, her own understanding of her teacher's expectations regarding each of twenty specific aide responsibilities.

The difference in the second half is that where the first half deals with the extent of aide *involvement* in particular responsibilities, the second half deals with the *importance* of those responsibilities to the center's overall program. So, using as an example the first responsibility once again, the aide checks one of the four boxes under the accompanying statement. If in this case she were to check box number 2 (as illustrated above), then she would be stating that she has received the following role from her teacher: "Given our center's priorities, this particular aide responsibility is somewhat important".

The teacher aide proceeds to the second aide responsibility, then to the third, and so forth through the twenty responsibilities--each time checking one of the boxes (1, 2, 3, or 4). And again in this run-through as in the previous run-through, the aide generates twenty different box scores. These twenty box scores, taken in order, are her "received role (importance) battery". This battery comprises the second half of her "received role battery".

The teacher aide received role battery then is simply a list of forty scores. It is the result of a teacher aide's checking one box after another for two run-throughs of the twenty aide responsibilities. Each one of the forty scores is a 1, 2, 3, or 4. How this received role battery is utilized in measuring teacher aide role learning will be explained shortly.

A second instrument, the Sent Role Measure, is also utilized in measuring role learning. The Sent Role Measure is incorporated in the longer "Teacher Questionnaire" (Appendix, Item 3) administered to teachers who supervise teacher aides. The Sent Role Measure (Appendix, Item 4) gives the individual teacher an opportunity to identify, on a four point scale, what she expects of her teacher aide(s) in regard to each of twenty aide responsibilities. (The twenty responsibilities used in the Sent Role Measure are the same as those used in the Received Role Measure.) Using as an example once again the first aide responsibility, "Making visits to the children's homes", the teacher is given the following statement:

AS A TEACHER WHO SUPERVISES A TEACHER AIDE,
I FEEL THAT THIS IS A RESPONSIBILITY IN
WHICH AN AIDE SHOULD...

1.	2.	3.	4.
not be involved.	occasionally be involved.	usually be involved.	always be involved.

(check [✓] one)

[ ]	[✓]	[ ]	[ ]

The teacher checks one of the four boxes, thereby indicating the role she has sent to her teacher aide. If, for example, she were to check box number 2 (as illustrated above), she would be stating that she has sent the following role: "As a teacher aide you should occasionally be involved in making visits to children's homes."

The teacher then goes on to the second aide responsibility, "Helping prepare and serve the children's food." Again, the same statement (regarding the extent of aide involvement) is given in conjunction with the responsibility. And again, the teacher checks one of the boxes (1, 2, 3, or 4). In this fashion the teacher goes through all of the twenty aide responsibilities, checking box 1, 2, 3, or 4. Having run through the twenty responsibilities, the teacher generates twenty different box scores. These twenty box scores, taken in order, are her "sent role (involvement) battery." This battery comprises the first half of what will eventually be her "sent role battery".

The Sent Role Measure continues, repeating the same twenty aide responsibilities. However, as in the case of the Received Role Measure, it can be seen that in conjunction with the second run-through of the aide responsibilities, the following (different) statement accompanies each of the responsibilities:

GIVEN OUR CENTER'S PRIORITIES, I CONSIDER
THIS PARTICULAR RESPONSIBILITY TO BE...

1.	2.	3.	4.
one of the least important.	somewhat important.	very important.	one of the most important.

(check [✓] one)

☐	☐	☑	☐

It is apparent that the purpose of the second half of the Sent Role Measure is the same as that of the first half -- to give the teacher an opportunity to identify, on a four point scale, her expectations regarding each of twenty specific aide responsibilities.

As in the previous instrument, the difference in the second half of this instrument is that where the first half deals with the extent of aide involvement in particular responsibilities, the second half deals with the importance of those tasks to the center's overall program. So, using as an example the first responsibility once again, the teacher checks one of the four boxes under the accompanying statement. If in this case she were to check box number 3 (as illustrated above), then she would be stating that she has sent the following role to her teacher aide: "Given our center's priorities, this particular aide duty is very important."

The teacher proceeds to the second responsibility, then to the third, and so forth through the twenty responsibilities -- each time checking one of the boxes (1, 2, 3, or 4). And again in this run-through as in the previous run-through, the teacher generates twenty different box scores. These twenty box scores, taken in order, are her "sent role (importance) battery." This battery comprises the second half of her "sent role bettery".

The teacher sent role battery then is simply a list of forty scores--as was the earlier teacher aide received role battery. It is the result of a teacher's checking one box after another for two run-throughs of the twenty aide responsibilities. Each one of the forty scores is a 1, 2, 3, or 4. This sent role battery is utilized, along with the received role battery, in measuring teacher aide role learning.

As was pointed out earlier, in order to measure role learning in a dyad, teacher and aide alike must be examined together--received role being compared to sent role. Obtaining a received role battery and a sent role battery for each party in the dyad makes this comparison possible. The response to each item on the received role battery is compared to the response on the corresponding item on the sent role battery, the difference (0, 1, 2, or 3) being duly noted. By way of illustration, it will be remembered that in preceding examples, on received role item number one (regarding making visits to children's homes) the teacher aide checked box number 4; while on sent role item number one the teacher checked box number 2. This indicates a received role versus sent role incongruence (difference) of 2 for item number one.

Role learning is a function of the congruence between received role battery responses and sent role battery responses in a dyad, considered item by item. As such role learning is the sum of the forty item differences:

$$\sum[r_1-s_1,\ r_2-s_2,\ r_3-s_3,\ \ldots r_{40}-s_{40}]$$

where: r_1= received role battery response for item number one; and
s_1= sent role battery response for item number one; etc.

A result of this summing of differences is that there is an inverse relationship between the sum of the differences and the extent of role learning; i.e. the lower the number, the greater the role learning, and vice versa. In the interest of clarity, it is possible to make a simple transformation that will make the relationship between the sum of the differences and the extent of role learning a direct, rather than inverse, one. The sum of the differences may be subtracted from the constant 120 (the maximum sum of differences possible--i.e. the number that would result should the difference on each of the forty items be 3). With this transformation included, the formula for role learning is as follows:

$$L = 120-\sum[r_1-s_1,\ r_2-s_2,\ r_3-s_3,\ \ldots r_{40}-s_{40}]$$

(Operational definition: L = "role learning")

Measuring role acceptance. Role acceptance -- the second component of role acquisition -- utilizes the Received Role Measure and the Role Compliance Measure. The Received Role Measure was just described in the discussion of measuring role learning. The Role Compliance Measure, like the Received Role Measure, is incorporated in the "Teacher Aide Questionnaire". The Role Compliance Measure (Appendix, Item 5) gives the individual aide an opportunity to identify, on a four point scale, the expectation she holds for herself in regard to each of the twenty aide responsibilities. This expectation may be considered the aide's "held role", distinctive from the aide's previously described received role, and from the teacher's previously described sent role.

Continuing the example of the aide responsibility, "Making visits to the children's homes", the Role Compliance Measure presents the following statement:

AS A TEACHER AIDE I FEEL THAT THIS IS A
RESPONSIBILITY IN WHICH AN AIDE SHOULD...

1.	2.	3.	4.
not be involved.	occasionally be involved.	usually be involved.	always be involved.
☐	☐	☐	☑

(check [√] one)

The teacher aide checks one of the four boxes, thereby indicating the role she has received from her teacher. If she were to check box number 1 (as illustrated above), then she would be stating that her held role is as follows: "As a teacher aide I feel that this is a responsibility in which an aide should not be involved."

The teacher aide proceeds to the second aide responsibility, "Helping prepare and serve the children's food", and the same statement (regarding the extent of aide involvement) is given in conjunction with the responsibility. In this (by now familiar) fashion the aide goes through all the twenty aide responsibilities, checking box 1, 2, 3, or 4. Having run through twenty responsibilities, the teacher aide generates twenty different box scores. These twenty box scores, taken in order, are her "held role (involvement) battery". This battery comprises the first half of what will eventually be her "held role battery".

The Role Compliance Measure continues, repeating the same twenty aide responsibilities. In conjunction with this second run-through of the aide responsibilities, the following statement accompanies each of the responsibilities:

GIVEN OUR CENTER'S PRIORITIES, AS A
TEACHER-AIDE I CONSIDER THIS PARTICULAR
RESPONSIBILITY TO BE...

1.	2.	3.	4.
one of the least important.	somewhat important.	very important.	one of the most importan

(check [✓] one)

☐	☐	☐	☑

The purpose of the second half of the Role Compliance Measure is the same as that of the first half -- to give the teacher aide an opportunity to identify, on a four point scale, her held role regarding each of twenty specific aide responsibilities. As was the case with the instruments described previously, where the first half deals with the extent of aide involvement, the second half deals with the importance of these responsibilities to the center's overall program. So again using the example of the first responsibility, if the teacher aide were to check box number 4 (as illustrated above), she would be stating that her held role is: "Given our center's priorities, as a teacher aide I consider this particular responsibility to be one of the most important".

The teacher aide proceeds to the second responsibility, then to the third, and so forth through the twenty responsibilities--each time checking one of the boxes (1, 2, 3, or 4). And again in this run-through as in the previous run-through, the teacher aide generates twenty different box scores. These twenty box scores, taken in order, are her "held role (importance) battery." This battery comprises the second half of her "held role battery."

The teacher aide held role battery then is simply a list of forty scores--as were the earlier teacher aide received role battery and the teacher sent role battery. It is the result of a teacher aide's checking one box after another for two run-throughs of the twenty aide responsibilities. Each one of the forty scores is a 1, 2, 3, or 4. This held role battery is utilized, along with the received role battery, in measuring teacher aide role acceptance.

In order to measure role acceptance by an individual teacher aide, received role must be compared to held role. Obtaining a received role battery and a held role battery for the aide makes this comparison possible. The response to each item on the received role battery is compared to the response on the corresponding item on the held role battery, the difference (0, 1, 2, or 3) being duly noted. By way of illustration, it will be remembered that in the preceding example, on received role item number one (regarding making visits to children's homes), the teacher aide checked box number 4; on held role item number one she checked box number 4. This indicates a received role versus held role incongruence (difference) of zero for item number one.

Role acceptance is a function of the congruence between the received role battery responses and the held role battery responses of a teacher aide, considered item by item. As such role acceptance is the sum of the forty item differences:

$$\sum [r_1-h_1, r_2-h_2, r_3-h_3, \ldots r_{40}-h_{40}]$$

where r_1 = received role battery response for item number one; h_1 = held role battery response for item number one; etc. A result of this summing of differences is that there is an inverse relationship between the sum of the differences and the extent of role learning; i.e., the lower the number, the greater the role learning, and vice versa. In the interest of clarity, it is possible to make a simple transformation that will make the relationship between the sum of the differences and the extent of role learning a direct, rather than inverse, one. The sum of the differences may be subtracted from the constant 120 (the maximum sum of differences possible--i.e., the number that would result should the difference on each of the forty items be 3). With this transformation included, the formula for role acceptance is as follows:

$$A = 120-\sum [r_1-h_1, r_2-h_2, r_3-h_3, \ldots r_{40}-h_{40}]$$

(Operational definition: A = role acceptance).

Measuring role fulfillment. Role fulfillment -- the third and final component of role acquisition -- utilizes the Role Fulfillment Measure. The Role Fulfillment Measure (Appendix, Item 6) like the Received Role Measure and the Sent Role Measure, is incorporated in the Teacher Questionnaire and gives the individual teacher an opportunity to rate the performance of her teacher aide, on a four point scale, in regard to each of the twenty aide responsibilities. Using as an example once again the first aide responsibility, "Making visits to the children's homes," the teacher is given the following statement:

IN THIS PARTICULAR RESPONSIBILITY
I CONSIDER THE AIDE'S GENERAL
PERFORMANCE TO BE...

1.	2.	3.	4.
poor	fair	good	excellent

(check [✓] one)

[ ]	[ ]	[✓]	[ ]

The teacher checks one of the four boxes, thereby indicating her rating of the aide's performance regarding that particular responsibility. If, for example, she were to check box number 3 (as illustrated above), she would be stating that in this particular responsibility she considers the aide's general performance to be "good."

The teacher proceeds to the second aide responsibility, "Helping prepare and serve the children's food," and the same statement (regarding the aide's general performance) is given in conjunction with the responsibility. The teacher continues through all the twenty aide responsibilities, checking box 1, 2, 3, or 4. Her twenty box scores taken in order, comprise the "role fulfillment battery."

The teacher role fulfillment battery is a list of twenty scores, the result of a teacher's checking of one box after another for one run-through of the twenty aide responsibilities. Each one of the twenty scores is a 1, 2, 3, or 4. This role fulfillment battery is utilized directly to measure teacher aide role fulfillment. The twenty scores on the role fulfillment battery are summed, yielding a total score that can range from 20 to 80.

$$F = \sum[f_1+f_2+f_3+ \ldots f_{20}]$$

(Operational definition: F = role fulfillment) where f_1 = role fulfillment battery response for item number 1; f_2 = role fulfillment battery response for item number 2; etc.

Measuring role acquisition. With measures of role learning, role acceptance, and role fulfillment established, it is possible to measure role acquisition by an individual teacher aide. Role acquisition is held to be a summative score employing all three of the components described above--each weighted equally. The first two components, role learning and role acceptance, may be directly utilized as they have been operationally defined. The third, role fulfillment, requires two simple transformations to meet the requirement of equal weighting.

First, it will be remembered that the role fulfillment battery is derived from a twenty item instrument, whereas the other two batteries are derived from forty item instruments. This handicaps role fulfillment, limiting it to half the score-building power of each of the other two components. Therefore, role fulfillment (F) is multiplied by 2 (=2F). Second, the role fulfillment battery consists of twenty scores of 1, 2, 3, or 4; whereas the other two batteries consist of scores of 0, 1, 2, or 3. The need to reduce each role fulfillment battery response by 1 may be expressed by reducing F by 20 (F-20).

Therefore, utilizing role learning and role acceptance as derived, and utilizing role fulfillment as derived and transformed, this study employs the following formula to measure role acquisition by an individual teacher aide in a Head Start Center:

$$R = L + A + 2(F - 20)$$

(Operational definition: R = role acquisition)

Uses of the Role Acquisition Measure

The Role Acquisition Measure was utilized by the author in a recent study to evaluate the effectiveness of Head Start centers as aide role-facilitating work settings. The study attempted to explore the relationship between extent of aide role acquisition and in-center role-facilitative organizational activities. Activities were of two kinds: supervisor (i.e. intra-dyadic) activities and center (i.e. extra-dyadic) activities. Supervisor activities (12 in all) included participation in training and/or continuing education designed to help the teacher understand her role vis-a-vis the teacher aide; establishment of regular occasions for processing of routine work experience with the aide; establishment of regular classroom activities planning procedures with the aide; and the like. Center activities (17 in all) included sponsorship of workshops to examine responsibilities of of teacher aides; provision of pre-service and/or in-service training for aides; provision of a career development plan; and the like.

The study called for the utilization of the Role Acquisition Measure's four instruments with 75 teacher - teacher aide dyads from 19 different Head Start centers. In the process of this study it was possible to obtain some indication of both the reliability and the validity of the instruments. Reliability estimates for the separate measures of role learning (L), role acceptance (A), and role fulfillment (F), were calculated by Hoyt and Stunkard's analysis of variance procedure (15). Reliability estimates were as follows:

Measure	Number of Items	Number of Respondents (Dyads)	Reliability Coefficient
Role Learning (L)	40	75	.779
Role Acceptance (A)	40	75	.900
Role Fulfillment (F)	20	75	.897
L + A + F	100	75	.539

Scores from the above three measures were also subjected to correlation analysis, utilizing the Pearson Product-Moment Correlation plus the Spearman-Brown Correction using z-scores. Results were as follows:

L + A = .668

L + F = .497

A + F = .295

Several findings of the study point to the validity of the instruments. It was found that there was a high positive correlation between aide role acquisition and tenure of the aide, tenure of the teacher, and tenure of the dyad. Aides who had held the teacher aide position longer scored higher on the Role Acquisition Measure. Likewise aides whose teachers had been supervising aides longer scored higher. And aides who had been working with their teachers longer also scored higher. It was also found that aides who worked in centers that exhibited a larger number of supervisor and center activities (high role-facilitative environments) scored significantly higher on the Role Acquisition Measure.

In this same study aide scores ranged from a high of 346 to a low of 211. Scores were distributed as follows:

Role Acquisition Scores	Number of Teacher Aides
346-350	1
331-345	3
316-350	10
301-315	19
286-300	19
271-285	13
256-270	5
251-255	0
226-240	2
211-225	3
	75

There are obviously many research questions that might be explored on the basis of teacher aide and teacher responses on the Role Acquisition Measure. An obvious one regards the relationship between the three variables learning, compliance, and performance. A study is presently being considered that would investigate low compliance - high performance aides--i. e. aides who perform satisfactorily but who are alienated by their own work routine.

Another use of the Measure may be of more interest to the adult education practitioner: as a diagnostic/training device. Teacher aide and teacher respond individually and without collaboration to the Teacher Aide Questionnaire and Teacher Questionnaire. Both are able to complete their questionnaires within one hour's time (it is actually closer to one-half hour for the teacher). So the time involved in administering the instruments is not extensive. The author found in his administration of the instruments that respondents exhibited a great deal of interest and curiosity regarding the outcome of their responses. In particular teacher aides were interested to know whether they had "read their teachers" accurately. In the

In the study described above all responses were held confidential. It would seem possible however to use the Role Acquisition Measure as a diagnostic device to identify aides whose "received roles" bear little resemblance to the expectations their teachers hold for them. Findings from such an effort might then serve as a basis for teacher aide -- teacher discussion, particularly in the area of clarification of expectations.

Concluding Remarks

The Role Acquisition Measure is a first attempt to measure extent of role acquisition of a supervisee by comparing supervisee and supervisor role expectations (regarding both learning and compliance) and by assessing supervisee performance. At the heart of the measure is the list of supervisee tasks (i.e. "center responsibilities"). It would seem that task analysis might be carried out for any supervisee position in any organization, and that the same basic instruments might be constructed around such a new list of tasks. At this point it would be necessary to decide whether the elements of 1) extent of involvement -- i.e. extent to which aide is to be involved in the task; and 2) importance of the task -- i.e how important the task is to the organization's goals, are in fact key elements in a different role whose acquisition is being measured. These two elements do seem particularly relevant in the analysis of paraprofessional - professional work relationships, focusing as they do on the problems of territoriality (to what extent is this an aide versus teacher task) and goal-directed activity (how important is the task to the accomplishment of the organization's purposes).

It is hoped that others involved in adult education research might wish to investigate the efficacy of the Role Acquisition Measure -- particularly those persons involved in the study of paraprofessionals and paraprofessionalization in human service organizations. But it is also the hope of the author that adult educators might come to see in the occupational role dilemmas faced by persons moving into new positions in complex organizations an opportunity for increased service by adult education practitioners and researchers alike. When work settings are seen to be learning environments; when work role acquisition is seen to be a basic kind of learning; and when work supervision is seen to be a basic kind of instruction; then adult education may come to find a role for itself in "improving the socialization process", to use Ronald Lippitt's phrase (16). Change calls for adaptation; adaptation necessitates education; and education requires skilled leadership. Adult educators have provided such leadership in the past and may well be in an advantageous position to provide leadership in the future -- if they can demonstrate that they are indeed able to facilitate the work role acquisition process for persons new to their positions. And paraprofessionals might be an excellent group to start with.

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3. Orville G. Brim, Jr., "Socialization Through the Life Cycle," in *Socialization after Childhood: Two Essays*, by Orville G. Brim, Jr. and Stanton Wheeler (New York: John Wiley & Sons, Inc., 1966), p. 5; and Orville G. Brim, Jr., "Adult Socialization," in *Socialization and Society*, ed. by John A. Clausen (Boston: Little, Brown and Company, 1968), p. 186.

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APPENDIX

Item 1 = Teacher Aide Questionnaire

Item 2 = Received Role Measure

Item 3 = Teacher Questionnaire

Item 4 = Sent Role Measure

Item 5 = Role Compliance Measure

Item 6 = Role Fulfillment Measure

NEW YORK STATE COLLEGE OF HUMAN ECOLOGY
A STATUTORY COLLEGE OF THE STATE UNIVERSITY
MARTHA VAN RENSSELAER HALL
CORNELL UNIVERSITY
ITHACA, NEW YORK 14850

DEPARTMENT OF COMMUNITY SERVICE EDUCATION

TEACHER AIDE QUESTIONNAIRE

Purpose

This questionnaire is part of a study concerned with the role of teacher aides in Head Start Centers throughout upstate New York. We hope this study can help aides and teachers alike discover even more effective ways of working with children and with parents.

In order for this study to be effective, we need your help.

This questionnaire is specifically designed to help you think about the responsibilities in which you are involved as a teacher aide. Every job requires learning the expectations of the persons we work with; so this questionnaire lets you reflect on how your teacher feels about your responsibilities too. Your responses will be held in complete confidence and will not be revealed to anyone in Head Start or anywhere else. You need not sign your name.

We do ask that you consider each item carefully. Your responses will join those of many other aides in an effort to increase understanding of the aide role.

Fred Peck is directing this study. He will assist you if you have any questions. Also, should you or any other staff members in your center wish to discuss the study further--or even design some training around these concerns--he will be glad to work with you.

Directions for Section I

First, look at the top of the questionnaire. Listed down the middle of that page and the next are 20 Center Responsibilities.

To the left under [A] are four statements (numbered 1,2,3,4). One of these statements indicates your understanding of how your teacher feels about that Responsibility.

To the right, under [B] are four statements (numbered 1,2,3,4). One of these statements indicates how you feel about that Responsibility.

Read the first Center Responsibility. Then check one of the four boxes in [A], and one of the four boxes in [B].

Next, move on to the second Responsibility, checking one of the boxes to the left and one of the boxes to the right. Continue through the list of Center Responsibilities.

Be sure you complete boxes for each Responsibility. If you are uncertain about a statement, check one that comes closest to how you feel. Do not skip any of the boxes.

Item 1

[A]					[B]			
E TEACHER I WORK WITH FEELS THAT THIS IS RESPONSIBILITY IN WHICH AN AIDE SHOULD...					AS A TEACHER AIDE I FEEL THAT THIS IS A RESPONSIBILITY IN WHICH AN AIDE SHOULD.			
1. 't be volved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY	1. not be involved.	2. occasionally be involved.	3. usually be involved.	4. alway invol
(check [√] one)					(check [√] one)			
[ ]	[ ]	[ ]	[ ]	Making visits to children's homes.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping prepare and serve the children's food.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping decide which materials are to be ordered.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Filling in at other positions in the center (kitchen, or bus, etc.).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Handling discipline problems.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Playing games with the children in the classroom or on the playground.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping plan the daily schedule of children's activities.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Talking quietly with a child who is upset.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Acting out stories with the children.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Holding conferences with the teacher about the children.	[ ]	[ ]	[ ]	[ ]

[A]					[B]			
E TEACHER I WORK WITH FEELS THAT THIS IS RESPONSIBILITY IN WHICH AN AIDE SHOULD...					AS A TEACHER AIDE I FEEL THAT THIS IS A RESPONSIBILITY IN WHICH AN AIDE SHOULD.			
1. ɔt be ıvolved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY	1. not be involved.	2. occasionally be involved.	3. usually be involved.	4. alway invol
(check [✓] one)					(check [✓] one)			
[ ]	[ ]	[ ]	[ ]	Keeping records (attendance /health,etc)	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Taking children on field trips.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Being responsible for a particular activity (block corner, game table, etc.).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping children settle arguments without fighting.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping children improve skills like cutting, pasting, coloring, etc.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Recruiting children for the program.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Reading and telling stories to the children.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping develop the center's goals, purpose, evaluation criteria, etc.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Taking charge of a small group of children while the teacher works with another group.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Meeting with other groups in the program (PC, Career Development Committee, etc.)	[ ]	[ ]	[ ]	[ ]

Item I (Cont.)

TEACHER AIDE QUESTIONNAIRE (CONTINUED)

Directions for Section II

The same 20 Center Responsibilities are repeated in the middle of the next two pages. Likewise to the left and right are four statements.

Note that the fourstatements to the left and right are worded differently. Read each of these statements.

Check one box to the left of the Center Responsibility and one box to the right, just as you did in Section I.

When you have completed this Section, check over your answers to the entire questionnaire. Make sure you have checked boxes for each Center Responsibility.

Then place the completed questionnaire in the envelope and return it to Fred Peck.

Thank you very much.

Item 1 (cont.)

[A] VEN OUR CENTER'S PRIORITIES, THE ACHER I WORK WITH CONSIDERS THIS RTICULAR RESPONSIBILITY TO BE...					[B] GIVEN OUR CENTER'S PRIORITIES, AS A TEACHER-AIDE I CONSIDER THIS PARTICULAR RESPONSIBILITY TO BE...			
1. e of e least portant.	2. somewhat important.	3. very important.	4. one of the most important	CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the mos importa
(check [✓] one)					(check [✓] one)			
☐	☐	☐	☐	Making visits to children's homes.	☐	☐	☐	☐
☐	☐	☐	☐	Helping prepare and serve the children's food.	☐	☐	☐	☐
☐	☐	☐	☐	Helping decide which materials are to be ordered.	☐	☐	☐	☐
☐	☐	☐	☐	Filling in at other positions in the center (kitchen, or bus, etc.)	☐	☐	☐	☐
☐	☐	☐	☐	Handling discipline problems.	☐	☐	☐	☐
☐	☐	☐	☐	Playing games with the children in the classroom or on the playground.	☐	☐	☐	☐
☐	☐	☐	☐	Helping plan the daily schedule of children's activities.	☐	☐	☐	☐
☐	☐	☐	☐	Talking quietly with a child who is upset.	☐	☐	☐	☐
☐	☐	☐	☐	Acting out stories with the children.	☐	☐	☐	☐
☐	☐	☐	☐	Holding conferences with the teacher about the children.	☐	☐	☐	☐

Item I (cont.)

[A]					[B]			
'EN OUR CENTER'S PRIORITIES, THE .CHER I WORK WITH CONSIDERS THIS :TICULAR RESPONSIBILITY TO BE...					GIVEN OUR CENTER'S PRIORITIES, AS A TEACHER-AIDE I CONSIDER THIS PARTICULAR RESPONSIBILITY TO BE...			
1. of least ortant.	2. somewhat important.	3. very important.	4. one of the most important.	CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the most importan
	(check [✓] one)					(check [✓] one)		
]	[ ]	[ ]	[ ]	Keeping records (attendance / health ,et	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Taking children on field trips.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Being responsible for a particular activity (block corner, game table, etc.).	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Helping children settle arguments without fighting.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Helping children improve skills like cutting, pasting, coloring, etc.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Recruiting children for the program.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Reading and telling stories to the children.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Helping develop the center's goals, purpose, evaluation criteria, etc.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Taking charge of a small group of children while the teacher works with another group.	[ ]	[ ]	[ ]	[ ]
]	[ ]	[ ]	[ ]	Meeting with other groups in the program (PC, Career Development	[ ]	[ ]	[ ]	[ ]

Item 1 (cont.)

[A]

THE TEACHER I WORK WITH FEELS THAT THIS IS A RESPONSIBILITY IN WHICH AN AIDE SHOULD...				
1. not be involved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY
(check [/] one)				
[ ]	[ ]	[ ]	[ ]	Making visits to children's homes.
[ ]	[ ]	[ ]	[ ]	Helping prepare and serve the children's food.
[ ]	[ ]	[ ]	[ ]	Helping decide which materials are to be ordered.
[ ]	[ ]	[ ]	[ ]	Filling in at other positions in the center (kitchen, or bus, etc.).
[ ]	[ ]	[ ]	[ ]	Handling discipline problems.
[ ]	[ ]	[ ]	[ ]	Playing games with the children in the classroom or on the playground.
[ ]	[ ]	[ ]	[ ]	Helping plan the daily schedule of children's activities.
[ ]	[ ]	[ ]	[ ]	Talking quietly with a child who is upset.
[ ]	[ ]	[ ]	[ ]	Acting out stories with the children.
[ ]	[ ]	[ ]	[ ]	Holding conferences with the teacher about the children.

Item 2

[A]

THE TEACHER I WORK WITH FEELS THAT THIS IS A RESPONSIBILITY IN WHICH AN AIDE SHOULD...				
1. not be involved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY
(check [√] one)				
[ ]	[ ]	[ ]	[ ]	Keeping records (attendance /health,etc)
[ ]	[ ]	[ ]	[ ]	Taking children on field trips.
[ ]	[ ]	[ ]	[ ]	Being responsible for a particular activity (block corner, game table, etc.).
[ ]	[ ]	[ ]	[ ]	Helping children settle arguments without fighting.
[ ]	[ ]	[ ]	[ ]	Helping children improve skills like cutting, pasting, coloring, etc.
[ ]	[ ]	[ ]	[ ]	Recruiting children for the program.
[ ]	[ ]	[ ]	[ ]	Reading and telling stories to the children.
[ ]	[ ]	[ ]	[ ]	Helping develop the center's goals, purpose, evaluation criteria, etc.
[ ]	[ ]	[ ]	[ ]	Taking charge of a small group of children while the teacher works with another group.
[ ]	[ ]	[ ]	[ ]	Meeting with other groups in the program (PC, Career Development

Item 2 (cont.)

Item 3

NEW YORK STATE COLLEGE OF HUMAN ECOLOGY
A STATUTORY COLLEGE OF THE STATE UNIVERSITY
MARTHA VAN RENSSELAER HALL
CORNELL UNIVERSITY
ITHACA, NEW YORK 14850

DEPARTMENT OF COMMUNITY SERVICE EDUCATION

TEACHER QUESTIONNAIRE

Purpose

This questionnaire is part of a study concerned with the role of teacher aides in Head Start Centers throughout upstate New York. We hope that this study can help aides and teachers alike discover even more effective ways of working with children and with parents.

In order for this study to be effective, we need your help.

This questionnaire is specifically designed to help you think about the responsibilities in which your teacher aide is involved. It also gives you a chance to reflect on how satisfactorily these responsibilities are fulfilled. Your responses will be held in complete confidence and will not be revealed to anyone in Head Start or anywhere else. You need not sign your name.

We do ask that you consider each item carefully. Your responses will join those of many other teachers in this effort to increase understanding of the aide role.

Fred Peck is directing this study. He will assist you if you have any questions. Also, should you or any other staff members in your center wish to discuss the study further--or even build some training around these concerns--he will be glad to work with you.

Directions for Section A

First, look at the top of the questionnaire. Listed down the middle of that page and the next are 20 Center Responsibilities.

To the left under [I] are four statements (numbered 1,2,3,4). One of these statements indicates whether you feel an aide should be involved in that Responsibility.

To the right under [II] are four statements (numbered 1,2,3,4). One of these statements indicates how important you consider that Responsibility to be.

Read the first Center Responsibility. Then check one of the four boxes in [I] and one of the four boxes in [II].

Next, move on to the second Responsibility, checking one of the boxes to the left and one of the boxes to the right. Continue through the list of Center Responsibilities.

Be sure you complete boxes for each Responsibility. If you are uncertain of a statement, check the one that comes closest to how you feel. Do not skip any of the boxes.

[I] S A TEACHER WHO SUPERVISES A TEACHER AIDE, FEEL THAT THIS IS A RESPONSIBILITY IN HICH AN AIDE SHOULD... (check [✓] one)					[II] GIVEN OUR CENTER'S PRIORITIES, I CONSIDE THIS PARTICULAR RESPONSIBILITY TO BE... (check [✓] one)			
1. ot be nvolved.	2. occasionally be involved.	3. usually be involved.	4. lways be involved.	CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the mos importa
☐	☐	☐	☐	Making visits to children's homes.	☐	☐	☐	☐
☐	☐	☐	☐	Helping prepare and serve the children's food.	☐	☐	☐	☐
☐	☐	☐	☐	Helping decide which materials are to be ordered.	☐	☐	☐	☐
☐	☐	☐	☐	Filling in at other positions in the center (kitchen, bus, etc.).	☐	☐	☐	☐
☐	☐	☐	☐	Handling discipline problems.	☐	☐	☐	☐
☐	☐	☐	☐	Playing games with the children in the classroom or on the playground.	☐	☐	☐	☐
☐	☐	☐	☐	Helping plan the daily schedule of children's activities.	☐	☐	☐	☐
☐	☐	☐	☐	Talking quietly with a child who is upset.	☐	☐	☐	☐
☐	☐	☐	☐	Acting out stories with the children.	☐	☐	☐	☐
☐	☐	☐	☐	Holding conferences with the teacher about the children.	☐	☐	☐	☐

[I]					[II]			
S A TEACHER WHO SUPERVISES A TEACHER AIDE, FEEL THAT THIS IS A RESPONSIBILITY IN ICH AN AIDE SHOULD...					GIVEN OUR CENTER'S PRIORITIES, I CONSIDE THIS PARTICULAR RESPONSIBILITY TO BE...			
1. ot be ivolved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the mos importa
(check [✓] one)					(check [✓] one)			
[ ]	[ ]	[ ]	[ ]	Keeping records (attendance/ health).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Taking children on field trips.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Being responsible for a particular activity (block corner, game table, etc.).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping children settle arguments without fighting.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping children improve skills like cutting, pasting, coloring, etc.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Recruiting children for the program.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Reading and telling stories to the children.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping develop the center's goals, purpose, evaluation criteria, etc.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Taking charge of a small group of children while the teacher works with another group.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Meeting with other groups in the program (P C, Career Development	[ ]	[ ]	[ ]	[ ]

Item 3 (cont.)

TEACHER QUESTIONNAIRE (CONTINUED)

Directions for Section B

The same 20 Center Responsibilities are repeated on the following pages. Following each Responsibility are four boxes (numbered 1,2,3,4). Check the box which most accurately reflects your rating of the aide's performance of that Responsibility.

When you have completed this section, check over your answers to both sections of the questionnaire. Make sure you have checked a box for each Center Responsibility.

The place the completed questionnaire in the envelope and return it to Fred Peck.

Thank you very much.

Item 3 (cont.)

IN THIS PARTICULAR RESPONSIBILIT
I CONSIDER THE AIDE'S GENERAL
PERFORMANCE TO BE...

(check [✓] one)

CENTER RESPONSIBILITY	1. poor	2. fair	3. good	4. excellen
Making visits to children's homes.	☐	☐	☐	☐
Helping prepare and serve the children's food.	☐	☐	☐	☐
Helping decide which materials are to be ordered.	☐	☐	☐	☐
Filling in at other positions in the center (kitchen, bus, etc.).	☐	☐	☐	☐
Handling discipline problems.	☐	☐	☐	☐
Playing games with the children in the classroom or on the playground.	☐	☐	☐	☐
Helping plan the daily schedule of children's activities.	☐	☐	☐	☐
Talking quietly with a child who is upset.	☐	☐	☐	☐
Acting out stories with the children.	☐	☐	☐	☐
Holding conferences with the teacher about the children.	☐	☐	☐	☐

Item 3 (cont.)

(Go on to the next page.)

Item 3 (cont.)

CENTER RESPONSIBILITY	IN THIS PARTICULAR RESPONSIBILIT I CONSIDER THE AIDE'S GENERAL PERFORMANCE TO BE... (check [√] one)			
	1. poor	2. fair	3. good	4. excellen
Keeping records (attendance/ health, etc.)	☐	☐	☐	☐
Taking children on field trips.	☐	☐	☐	☐
Being responsible for a particular activity (block corner, game table, etc.).	☐	☐	☐	☐
Helping children settle arguments without fighting.	☐	☐	☐	☐
Helping children improve skills like cutting, pasting, coloring, etc.	☐	☐	☐	☐
Recruiting children for the program.	☐	☐	☐	☐
Reading and telling stories to the children.	☐	☐	☐	☐
Helping develop the center's goals, purpose, evaluation criteria, etc.	☐	☐	☐	☐
Taking charge of a small group of children while the teacher works with another group.	☐	☐	☐	☐
Meeting with other groups in the program (PC, Career Development Committee, etc.).	☐	☐	☐	☐

[I]

S A TEACHER WHO SUPERVISES A TEACHER AIDE,
FEEL THAT THIS IS A RESPONSIBILITY IN
HICH AN AIDE SHOULD...

[II]

GIVEN OUR CENTER'S PRIORITIES, I CONSID
THIS PARTICULAR RESPONSIBILITY TO BE...

1. ot be nvolved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the mo import
(check [✓] one)					(check [✓] one)			
[ ]	[ ]	[ ]	[ ]	Making visits to children's homes.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping prepare and serve the children's food.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping decide which materials are to be ordered.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Filling in at other positions in the center (kitchen, bus, etc.).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Handling discipline problems.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Playing games with the children in the classroom or on the playground.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping plan the daily schedule of children's activities.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Talking quietly with a child who is upset.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Acting out stories with the children.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Holding conferences with the teacher about the children.	[ ]	[ ]	[ ]	[ ]

[I]

S A TEACHER WHO SUPERVISES A TEACHER AIDE,
FEEL THAT THIS IS A RESPONSIBILITY IN
HICH AN AIDE SHOULD...

[II]

GIVEN OUR CENTER'S PRIORITIES, I CONSID
THIS PARTICULAR RESPONSIBILITY TO BE...

1. ot be nvolved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.	CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the mo import
(check [✓] one)					(check [✓] one)			
[ ]	[ ]	[ ]	[ ]	Keeping records (attendance/ health).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Taking children on field trips.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Being responsible for a particular activity (block corner, game table, etc.).	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping children settle arguments without fighting.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping children improve skills like cutting, pasting, coloring, etc.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Recruiting children for the program.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Reading and telling stories to the children.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Helping develop the center's goals, purpose, evaluation criteria, etc.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Taking charge of a small group of children while the teacher works with another group.	[ ]	[ ]	[ ]	[ ]
[ ]	[ ]	[ ]	[ ]	Meeting with other groups in the program (P C, Career Development [illegible]	[ ]	[ ]	[ ]	[ ]

[B]

CENTER RESPONSIBILITY	AS A TEACHER AIDE I FEEL THAT THIS IS A RESPONSIBILITY IN WHICH AN AIDE SHOULD...			
	1. not be involved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.
	(check [✓] one)			
Making visits to children's homes.	[ ]	[ ]	[ ]	[ ]
Helping prepare and serve the children's food.	[ ]	[ ]	[ ]	[ ]
Helping decide which materials are to be ordered.	[ ]	[ ]	[ ]	[ ]
Filling in at other positions in the center (kitchen, or bus, etc.).	[ ]	[ ]	[ ]	[ ]
Handling discipline problems.	[ ]	[ ]	[ ]	[ ]
Playing games with the children in the classroom or on the playground.	[ ]	[ ]	[ ]	[ ]
Helping plan the daily schedule of children's activities.	[ ]	[ ]	[ ]	[ ]
Talking quietly with a child who is upset.	[ ]	[ ]	[ ]	[ ]
Acting out stories with the children.	[ ]	[ ]	[ ]	[ ]
Holding conferences with the teacher about the children.	[ ]	[ ]	[ ]	[ ]

Item 5

[B]

CENTER RESPONSIBILITY	AS A TEACHER AIDE I FEEL THAT THIS IS A RESPONSIBILITY IN WHICH AN AIDE SHOULD...			
	1. not be involved.	2. occasionally be involved.	3. usually be involved.	4. always be involved.
	(check [√] one)			
Keeping records (attendance /health,etc	☐	☐	☐	☐
Taking children on field trips.	☐	☐	☐	☐
Being responsible for a particular activity (block corner, game table, etc.).	☐	☐	☐	☐
Helping children settle arguments without fighting.	☐	☐	☐	☐
Helping children improve skills like cutting, pasting, coloring, etc.	☐	☐	☐	☐
Recruiting children for the program.	☐	☐	☐	☐
Reading and telling stories to the children.	☐	☐	☐	☐
Helping develop the center's goals, purpose, evaluation criteria, etc.	☐	☐	☐	☐
Taking charge of a small group of children while the teacher works with another group.	☐	☐	☐	☐
Meeting with other groups in the program (PC, Career Development	☐	☐	☐	☐

Item 5 (cont.)

Item 5 (cont.)

	[B] GIVEN OUR CENTER'S PRIORITIES, AS A TEACHER-AIDE I CONSIDER THIS PARTICULAR RESPONSIBILITY TO BE...			
CENTER RESPONSIBILITY	1. one of the least important.	2. somewhat important.	3. very important.	4. one of the most important.
	(check [✓] one)			
Making visits to children's homes.	[ ]	[ ]	[ ]	[ ]
Helping prepare and serve the children's food.	[ ]	[ ]	[ ]	[ ]
Helping decide which materials are to be ordered.	[ ]	[ ]	[ ]	[ ]
Filling in at other positions in the center (kitchen, or bus, etc.)	[ ]	[ ]	[ ]	[ ]
Handling discipline problems.	[ ]	[ ]	[ ]	[ ]
Playing games with the children in the classroom or on the playground.	[ ]	[ ]	[ ]	[ ]
Helping plan the daily schedule of children's activities.	[ ]	[ ]	[ ]	[ ]
Talking quietly with a child who is upset.	[ ]	[ ]	[ ]	[ ]
Acting out stories with the children.	[ ]	[ ]	[ ]	[ ]
Holding conferences with the teacher about the children.	[ ]	[ ]	[ ]	[ ]

Item 5 (cont.)

[B]

CENTER RESPONSIBILITY	GIVEN OUR CENTER'S PRIORITIES, AS A TEACHER-AIDE I CONSIDER THIS PARTICULAR RESPONSIBILITY TO BE... 1. one of the least important.	2. somewhat important.	3. very important.	4. one of the most important.
		(check [✓] one)		
Keeping records (attendance / health, etc.)	[ ]	[ ]	[ ]	[ ]
Taking children on field trips.	[ ]	[ ]	[ ]	[ ]
Being responsible for a particular activity (block corner, game table, etc.).	[ ]	[ ]	[ ]	[ ]
Helping children settle arguments without fighting.	[ ]	[ ]	[ ]	[ ]
Helping children improve skills like cutting, pasting, coloring, etc.	[ ]	[ ]	[ ]	[ ]
Recruiting children for the program.	[ ]	[ ]	[ ]	[ ]
Reading and telling stories to the children.	[ ]	[ ]	[ ]	[ ]
Helping develop the center's goals, purpose, evaluation criteria, etc.	[ ]	[ ]	[ ]	[ ]
Taking charge of a small group of children while the teacher works with another group.	[ ]	[ ]	[ ]	[ ]
Meeting with other groups in the program (PC, Career Development Committee, etc.)	[ ]	[ ]	[ ]	[ ]

CENTER RESPONSIBILITY

	IN THIS PARTICULAR RESPONSIBILIT I CONSIDER THE AIDE'S GENERAL PERFORMANCE TO BE...			
	1. poor	2. fair	3. good	4. excellen
	(check [✓] one)			
Making visits to children's homes.	[ ]	[ ]	[ ]	[ ]
Helping prepare and serve the children's food.	[ ]	[ ]	[ ]	[ ]
Helping decide which materials are to be ordered.	[ ]	[ ]	[ ]	[ ]
Filling in at other positions in the center (kitchen, bus, etc.).	[ ]	[ ]	[ ]	[ ]
Handling discipline problems.	[ ]	[ ]	[ ]	[ ]
Playing games with the children in the classroom or on the playground.	[ ]	[ ]	[ ]	[ ]
Helping plan the daily schedule of children's activities.	[ ]	[ ]	[ ]	[ ]
Talking quietly with a child who is upset.	[ ]	[ ]	[ ]	[ ]
Acting out stories with the children.	[ ]	[ ]	[ ]	[ ]
Holding conferences with the teacher about the children.	[ ]	[ ]	[ ]	[ ]

Item 6

(Go on to the next page.)

Item 6 (cont.)

CENTER RESPONSIBILITY	IN THIS PARTICULAR RESPONSIBILIT I CONSIDER THE AIDE'S GENERAL PERFORMANCE TO BE...			
	1. poor	2. fair	3. good	4. excellen
	(check [√] one)			
Keeping records (attendance/ health, etc.)	[ ]	[ ]	[ ]	[ ]
Taking children on field trips.	[ ]	[ ]	[ ]	[ ]
Being responsible for a particular activity (block corner, game table, etc.).	[ ]	[ ]	[ ]	[ ]
Helping children settle arguments without fighting.	[ ]	[ ]	[ ]	[ ]
Helping children improve skills like cutting, pasting, coloring, etc.	[ ]	[ ]	[ ]	[ ]
Recruiting children for the program.	[ ]	[ ]	[ ]	[ ]
Reading and telling stories to the children.	[ ]	[ ]	[ ]	[ ]
Helping develop the center's goals, purpose, evaluation criteria, etc.	[ ]	[ ]	[ ]	[ ]
Taking charge of a small group of children while the teacher works with another group.	[ ]	[ ]	[ ]	[ ]
Meeting with other groups in the program (PC, Career Development Committee, etc.).	[ ]	[ ]	[ ]	[ ]

Institutional Change and the Ghost of the Past: Historical Issues in Higher Adult Education

Kathleen R. Penfield
Rutgers University

A cursury glance at the literature of adult education quickly reveals how little attention has been paid to its history. Among fellow adult educators, I have often sensed the sentiment that history is a luxury which we cannot yet afford. Instead, our emphasis must be upon that which has direct implications for the improvement of practice. Yet, without historical insight how can we know who or what we are, what has influenced our acts, or what their consequences have been? We eulogize the need for social and institutional change -- pride ourselves on being at the cutting edge -- but fail to understand, as Veblen did, that: "Institutions are products of the past process, are adopted to past circumstances, and are therefore never in full accord with the requirements of the present." (1)

Can we afford the luxury of not seeking out the insights that cogent historical analysis could give us? While we expound upon the beauties of the cooperative extension model, teach in its techniques, and recommend it as the ideal model for an industrial or urban extension service, can we ignore evidence that cooperative extension may have contributed to the control of the agricultural sector by powerful agribusinesses which are not only indifferent to the consumer, but reap profits off the abject poverty of others? (2) Is it possible that, in the name of public service, our universities contributed to the development of such a monster? In our preoccupation with technique and practice, we had failed to consider functions, social consequences, or political influences. We had naively assumed that our institutions and programs operated in a vacuum, and never asked important questions that might have jarred the status quo, or at least aired the dirty linen.

University or general extension shares the limelight with cooperative extension as the "service" arm of the university. Despite the reams of literature, after extensively examining it, I am convinced that we know little about how general extension has functioned in society, the difference it has made in the lives of the individuals it has served or failed to serve, the forces and values that have controlled it or influenced its development, or what its effect has been upon higher education and society in general. While certainly not the only means, good institutional and social history would contribute significantly to our understanding. I am convinced that good historical research is crucial to considerations of purpose, functions, and change, as well as the setting of future goals and the prediction of future developments for higher adult education.

The History of Higher Adult Education: The State of the Art

As far as I can ascertain, very few historians have researched the adult education or service activities of American colleges and universities. Even within the history of higher education, which has been extensively researched, one rarely finds more than a fleeting reference to university extension. One noteworthy exception is Frederick Rudolph's delightful and insightful history, *The American College and University* (1962). Laurence R. Veysey's thematic approach in *The Emergence of the American University* (1965) is an exhaustive study of the conflicting ideals which ultimately gave way to structural and ideational conformity in American higher education. A commendable undertaking, Veysey's continues to be the most provocative treatment of the public service function of the university published to date -- a dubious distinction, for he has little competition. Despite his cogent analysis, in emphasizing internal curricula reforms to meet the needs of a new resident student population rather than university outreach functions, Veysey slights the role of extension services and land-grant institutions in general.

Richard J. Storr has been at the forefront in studying the relationship between higher education and its publics, starting with The Beginning of Graduate Education in America (1953), and "The Public Conscience of the University," in the Harvard Education Review (Winter, 1953), to Harper's University: The Beginnings (1966). Also provocative, particularly regarding the effects of professionalization and business influences, is Richard Hofstadter and C. DeWitt Hardy, The Development and Scope of Higher Education in the United States (1952). There is a great need for further research into the interrelationships between higher education and society. Most historians of higher education have focused on its internal dimensions, virtually ignoring their social origins or consequences. Public relations, changing relationships between the professions and the university, as well as the latter's role as credentialor, are each in need of further study. Major breakthroughs on the social effects of higher education were The Academic Revolution by Christopher Jencks and David Riesman (1968) and Jencks's recent Inequality (1972).

Also noteworthy are the works of three social and educational critics whose penetrating analyses provide significant insights into the extension and service functions of the American University. In Great American Universities (1910), Edwin E. Slosson, identifying with the progressive elements in higher education, employed anecdotal, statistical and historical techniques to write a probing survey of America's leading universities at a critical time in their development. Twenty years later, in Universities: American, English and German (1930), Abraham Flexner wrote a searing criticism of the utilitarian and service orientation of American higher education. In sharp contrast, The College Charts Its Course (1939) by R. Freeman Butts is a more radical, almost missionary treatise on the need for a service-oriented university.

There is no history of the state university movement in American higher education, the political and social manifestations of which still await probing analysis. Two studies of land-grant colleges have been published, the most provocative of which is Earle D. Ross's Democracy's College: The Land-Grant Movement in the Formative Stage (1942). Edward Danforth Eddy, Jr., Colleges for Our Land and Time: The Land-Grant Idea in American Education (1957), carries the evolution of these colleges into more recent times, but is less analytical and focuses primarily on the development of cooperative extension in terms of program expansion. Also relevant to the formation of cooperative extension is Alfred C. True's A History of Agricultural Education in the United States, 1785-1925 (1929), a vast compendium of information which does chronicle events, but still leaves a great need for a history of cooperative extension.

Institutional histories of colleges and universities vary greatly in quality, and few give attention to extension type activities or adult education. Yet, for institutional studies of extension, they are important backdrops. Particularly valuable is Merle Curti and Vernon Carstensen, *The University of Wisconsin: A History, 1848-1925,* (1949) which includes a penetrating analysis of extension and extension-type activities.

Institutional histories of extension are also uneven in quality and value. Often-times, these are written by a member of the institution to commemorate a historic milestone. Others are written by doctoral students in search of a dissertation topic whose only qualification is that they have no methodological training whatsoever. In either case, the result is a more or less well-done chronicle of events and, in general, poor historical research, devoid of critical analysis or interpretation. Thus, we know a little about who, when and where; but virtually nothing about why, or cause and effect. B.T. At this point, most historic studies or accounts will be of some value in adding to our understnading; some have already made substantial contributions in their own right.

Frederick M. Rosentreter's *The Boundaries of the Campus: A History of the University of Wisconsin Extension Division, 1885-1945* (1957) is by far the best study of an extension service published to date. An important contribution, Rosentreter's strength is in placing developments within the perspective of state politics and intellectual thought. Personalities, conflicts and issues come to life, particularly during the years of Reber's administration. His cogent analysis of that period leads one to be disappointed by his confusing treatment of the highly suggestive Snell administration, and virtual inattention to Holt's appointment and policies. Also limited is the analysis of Extension's functioning within the context of a multi-facted, stratified society and developments within higher education. Relationships with the parent instituion, as well as business and industry, are often unclear. These criticisms are intended primarily to suggest needed directions for further studies, for which Rosentreter's provides an invaluable base of insights and information. Moreover, since its object was Wisconsin, a seminal institution in the history of extension, its contribution is all the greater.

Unfortunately, two other important institutions in the history of higher adult education, the University of Chicago and Columbia, have not been the subjects of probing historical analysis. John Angus Burrell's *A History of Adult Education at Columbia University* (1954) is a useful but primarily descriptive work written as part of a bicentennial history by a faculty member of the English Department, facts which do influence his approach and interpretation. The main works on the extension effort at Chicago are Floyd W. Reeves, et. al., *University Extension Services, The University of Chicago Survey* (1933) and Robert M. Roth, *A Conspectus to the Self-Study Project of University College, The University of Chicago* (1964). Although both are valuable sources, neither can substitute for a greatly needed history of the Chicago movement. As large private urban institutions which, on the surface at least, developed along somewhat similar channels, case histories of each would serve to augment the dominant picture of extension models within state and land-grant institutions.

Aside from the Rosentreter study, even histories of state institutions are limited. Russel M. Grumman's *University Extension in Action* (1946) is a superficial description of extension at the University of North Carolina written by its director. Two dissertations on state extension programs, Kermit King's on California and Frank Dee's on Rutgers, are more comprehensive but limited to descriptive chronicling. A more ambitious and noteworthy effort is "A Historical Analysis of Non-Credit Adult Education Program Development at the University of Georgia, 1804-1968" by Hilton T. Bonniwell (1969). (3) Although I'm not sure that the questions he asks are terribly significant, Bonniwell's attempt to discuss all university services is commendable, while his indifference to political and social issues is disappointing. As is true of most of our studies, the public, university, and extension organization are treated as though there were complete internal agreement and uniformity.

The same criticism applies to Michael Hyle Jessup's "An Historical Analysis of the Development of Selected Areas of University Extension Programs in the United States, 1900-1965, As Related in Professional Literature." Yet, focusing upon "university-level" credit and non-credit offerings, Jessup's is a useful summary of national trends and a good starting place for the student of extension history. His use of secondary source materials is extensive, but critical analysis and interpretation are disappointingly lacking. Ideological and political conflicts do not emerge, differences are ignored, and changing social functions never touched upon. Witness his conclusion that:

> It would appear that more extension programs are being offered each year to increasingly larger audiences. It is therefore, believed that university extension is performing the function for which it was founded -- service to those who were unable to attend programs offered on the campus proper. (4)

One page later Jessup begins to discuss extension's increasing services to the federal government, business, industry and professional groups, without a word to causes or implications. Isn't it time we began to ask ourselves these questions?

A third dissertation is noteworthy here: Anne Freidus, "A History of the Division of General Education, New York University, 1934-1959" (1963). (5) Although many of the foregoing criticisms would also apply to the Freidus study, she does give us some generalizations worthy of further consideration, particularly that innovative success was dependent upon autonomy, which was made possible by program limitation to non-credit offerings. Thus, the Division "did not have to serve two masters," avoiding the university controls which one strongly suspects were powerful forces elsewhere. Yet, it does not seem that all was as simple as Freidus would have us believe; I am particularly curious about the consequences and implications of the extensively documented services to business and industry, as well as the apparent sanctions upon the Division's offering an AA Degree.

Although not a history, a natural complement to the Freidus study is Myrtle S. Jacobson's Night and Day: The Interaction Between an Academic Institution and its Evening College (1970), which focuses on the School of General Studies at Brooklyn College. Known for its innovative approaches to credit programming, Jacobson reveals much of the storm beneath the calm, documenting the strains and institutional forces which served as a brake on the SGS's efforts for a uniquely adult program. A less incisive but good variation on the theme of intraorganizational interaction is Edward L. Goebel's study of patterns and attitudes at the Universities of Georgia, Nebraska, Oklahoma, and Michigan State, entitled "An Analysis of Related Organizational Patterns in University Adult Education Centers and Their Parent Institutions: A Study in Dual Hierarchy" (1968). (6)

We do not have a general history of university extension in the United States. James Creese's *The Extension of University Teaching* (194[illegible]) has been generally regarded as such, but, despite some worthwhile descriptive data, it is seriously marred by a lack of documentation and superficiality. It is a nice story and should be read accordingly. Actually, although only a chapter, C. Hartley Grattan's treatment of extension's formative years in *In Quest of Knowledge* (1955) is probably as good as any published. In 1926 the Carnegie Corporation sponsored *The University Afield* by Alfred N. Hall-Quest, a comprehensive survey of considerable historic value and, apparently, controversy. (7) Although his conclusions may be subject to question, Hall-Quest's study is delightfully suggestive, highly interpretative and based upon rigorous data analysis. Less interesting but still useful is John R. Morton's survey, *University Extension in the United States* (1953). Commissioned by the National University Extension Association (NUEA), it is a belabored numbers survey of course offerings and instructor credentials, weakened by a paucity of meaningful comparisons or interpretations.

Our knowledge about higher adult education has been greatly advanced during the last decade and a half by the publications of the Center for the Study of the Liberal Education of Adults, whose tradition is being carried on by Syracuse University's Publications in Continuing Education. A number of monographs and studies have been generated which are ripe for integration and interpretation. For our purposes, some of the more interesting research was done by James T. Carey, particularly *Forms and Forces in University Adult Education* (1961) which is a provocative attempt to develop a theoretical model of extension development. Although a commendable step toward the application of social science theory to the study of adult education, it is limited by reliance upon questionnaire responses of administrative officers. In an interesting follow-up study, in 1968 Sudershan Kapoor used Carey's findings as a basis for developing criteria which would be viable indicators of effective extension organization. Entitled "A Model of University Extension Organization" (8), the study was limited by a circular determination of effectiveness, but balanced by some interesting data, particularly in the area of decision-making responsibility and institutional status.

We are rapidly accumulating a large body of literature on higher adult education which should be synthesized. A beginning, augmented by a good bibliography, is Malcolm S. Knowles's *Higher Adult Education in the United States: The Current Picture, Trends and Issues* (1969). A part of the tradition which developed that body of literature, Knowles does an excellent job of summarizing trends, but does not bring to it a fresh questioning eye. Unfortunately, the state of the art in history of adult education is rather bleak; at least we have been brought to the point where we have some data at our fingertips and can begin a critical examination of the forces which have shaped extension and the masters it has served.

The California Study

A. Issues and Methodology

During the past year I completed a history of University Extension at the University of California. (9) Initially my interest had been triggered by demands that the university serve the needs of the poor and minorities, as well as combat the evils of urbanization. Prodded by upheavals from within as well as without, the University of California struggled with the redefinition of its responsibilities for public service and mass access. In 1969 and 1970, All-University Faculty Conferences were devoted to these issues, the first focusing upon possible University responses to the "urban crisis" and the second recommending new forms to deal with that crisis. The outcome was a new concept -- "the extended university" -- a university redirected to meet new mandates for continuing education, part-time degree programs, and problem solving in the community. (10)

I listened to the debates and the "new" proposals, and continued to be struck by paradoxes: academics questioned whether the University should become involved in public service as though it were a new function; administrators proposed an extended university as though University Extension did not exist. I must admit that the conceptual difference between an extended university and university extension escaped me. Was another institution being established to assume responsibility, in part or in total, of Extension's functions? If so, why, and what were the implications?

Prompted by these apparent paradoxes, I searched the literature on University Extension for evidences of their roots, and found even the most recent definitive work to be based on the assumption that the university had three functions: teaching, research and public service or extension, the last of which was alleged to be firmly rooted in the land-grant tradition. (11) But, on the meanings of public service, particularly its substance and object, I found little more than the assumptions that: (1) the public was a monolith, and (2) all that did not consist of teaching full-time resident students or basic research was, ipso facto, service.

The university's alleged service function has been widely alluded to but scantily substantiated. In part, that may be due to the lack of attention paid service by university policy makers. As Laurence Veysey has cryptically commented, "It is difficult to write a history, or even a sociology, of silence." (12) One senses that service has been a pervasive spirit in higher education; a spirit whose substance has been largely undefined; a spirit which is today in search of substance. Recently, even the Carnegie Commision decided that it was necessary to more clearly define the university's service responsibilities. (13)

The hypothesis emerged that service may not have been a distinct university function at all, but rather a bit of political rhetoric employed by university administrators to legitimize their goals for institutional expansion; certainly university public relations literature is replete with allusions to service. If service was a viable goal, I was curious as to what accommodations or conflicts had emerged from housing university extension within an institution that prided itself on academic excellence. Thus, while an interest in determining the substance, if any, of the University's ephemeral public service priorities provided the back drop for research, in the foreground was the closely related goal of determining the forms and forces which had shaped Extension's development at the University of California. This resulted in an historical approach which, within the relevant social context, sought to interpret developments in both the University proper and the Extension Division, with a focus upon the interrelationships between them.

The great bulk of data was culled from primary source holdings in the University Archives, the Bancroft Library, and Administrative Records. Specifically, extensive use was made of the Files of the Presidents' Office and the University Extension Division, as well as the Proceedings of the Academic Senate, including its Committees on Educational Policy and Courses of Instruction, the Graduate Council, the Board of Regents, and the All-University Faculty Conferences. The writings and addresses of key figures, interviews conducted by the Oral History Project, and personal interviews with Extension staff members were invaluable sources of data and insight. Also important were annual reports of the University Presidents and Extension Directors, as well as specially authorized committee reports.

Because of the interest in understanding the University's posture and influence on Extension, the Files of the Presidents' Office were a most important source. This was particularly true in crisis periods, usually spurred by fiscal difficulties, faculty demands for control, or the need to appoint a new Extension head. It was found that the selection of an extension director was approached with extreme caution by each University President and, in each instance, the appointment signalled a major policy shift or political decision. In 1938 the politics were so strong that it took four years and a world war before the President felt sufficient power to mandate the future thrust of Extension.

Along with the Presidents' Files, manuscript collections and personal interviews were crucial to flushing out the meaning and drama that lay beneath the relatively dry and uninteresting annual reports and committee meetings. When one realizes that most extension histories have been based solely upon annual reports, one can understand why they've been preoccupied with reporting growth and limited to chronicling events. Interviews were uneven in value, depending upon the interviewer's skill and the interviewee's willingness to talk and accuracy of recall. They were important as indicators of possible problems or conflicts in the early stages, spurring the search for documentation. Used skillfully, interviews can be invaluable tools, but must be interpreted cautiously. The same generalizations apply to the interviews conducted by the Oral History Project: some recollections were incorrect, some interviewers did not ask proving questions, and some insights were priceless.

Understanding events in California Extension depended upon a firm knowledge of the University's history and governance, national trends in higher education and extension, and the unique factors in California's social and political history. Secondary sources were important for providing this context, as were primary source materials from the university and the Proceedings of the NUEA. This was particularly important. When its very function has been described as a bridge between the university and the public, to study general extension as though it existed in a vacuum is sheer folly. This has been a major weakness of extension research to date.

B. Observations, Interpretations, and Unanswered Questions

The use of different forms of source materials resulted in some unexpected findings. One of the most interesting was that extension in California grew out of and developed under fundamentally conservative principles. Extension was originally launched to raise the quality of candidates for the university and to make the public aware of its academic purposes. Charles Mills Gayley, extension's founder opposed "the higher education of the periphery," and warned that

> The University should not adopt the idols of the community. It should set the ideals. The American University is, and ever must be, democratic. It offers education to all who can profit by it. But education itself is aristocratic -- of the best and for the best. The educated are those who, having striven, are the chosen few. (14)

The maintenance of University standards was deemed to be crucial. Referring to the first group of experimental students, Gayley proudly commented "that only 52 out of 1,230 listeners have passed the examinations set, attests to the grade of work required by the University of those who deserved its certificate." (15)

In the early years, one anonymous Extension critic argued that the courses were "partaken by people of fashion and leisure, generally of the feminine gender, who, between two teas, come to nibble at intellectual sweetmeats." Instead, he implored the University to "be humble, willing, efficious in its relations to the poor classes, let its light seek every possible avenue into the lives of the lowly." (16)

Possibly because the public tired of the "intellectual sweetmeats" which the University saw fit to offer it, University Extension followed the national pattern of decline. In 1912, partly influenced by extension successes at Wisconsin, and determined to stay the movement to found a rival institution in the southern part of the State, Ira Woods Howerth was recruited from Chicago to revivify extension. Howerth energetically worked to establish extension along the Wisconsin model, was met with staunch opposition and the institution of rigid faculty controls. (17) When he refused to conform, he was fired. A social progressive and an educational radical, the University Regents and faculty could not accept Howerth's efforts "to provide broad educational opportunities for the people" and "to make the University more broadly useful to the people." (18)

The firing of Howerth was partially influenced by his pacifist stance on World War I. Other instances in the history of Extension at California, augmented by those Rosentreter cities in his study of Wisconsin, lead to the suggestion that alien political or social ideas could not be tolerated in extension of all places. For example, Rosentreter reports that bigoted public opposition to S. I. Hayakawa's Japanese origins and T. Harry Williams's lectures on American History led to the cancellation of their classes. (19) Unprotected by tenure or the walls of the ivory tower, no one has yet researched the possibly strong impact of conservative public opinion upon extension programming.

Howerth's successor, Leon J. Richardson, symbolized the conservative temper of the interwar period. A Latin scholar and respected University professor, Richardson's duty was to bring Extension back into the fold and make it "truly representative of the University." This was accomplished by: (1) the limitation of Extension to instructional activities; (2) the elevation of offerings to resemble more closely "university level" work; (3) the active recruitment of University faculty and academically trained personnel as Extension teachers; and (4) the institution of an elaborate system of University checks--each Extension offering was to be approved by the Extension Advisory Board, the relevant University department, the President of the University, and, in the case of credit courses, the Committee on Courses of Instruction.

It was through the committee on Courses and the university advisory board that the faculty exerted its greatest controls. When the faculty perceived that Extension was getting out of hand, it used its newly attained power and threatened to abolish Extension's right to offer courses for degree credit. Two major crises were brought about this way; the first in the late '20's and the second in the late '50's. In the first case, Extension was powerless and, led by a faculty member who "understood University values," the faculty weilded extensive control over Extension until World War II. In the second case, a stronger Extension unit fought vigorously, primarily on economic grounds, and ultimately won what may yet prove to be a pyrric victory.

The movement toward college-level credit offerings in the '20's and '30's was a national one. During this period the NUEA had a committee on standards which strove to make sure that extension offerings were of university grade and attempted to standardize degree credit values. Hall-Quest's study in 1926 pointed to the coming transition in extension; the transition from the ideal of serving the people's needs wherever and however manifest, to an emphasis upon university instruction for those unable to attend full-time.

It is interesting that extension was dominated by the service ideal, popularly known as the Wisconsin Idea, for less than a decade. World War I spelled the end of that utopian period. War-time needs and returning veterans created new demands for university instruction which extension was asked to fill. Searching for legitimacy, extension leaders willingly followed the call, especially when it came from men of the stature of Nicholas Murray Butler, Edward L. Thorndike and Frederick P. Keppel, and was reinforced by Carnegie funds which made possible the initial steps of a drive toward professionalization

Individual demands for instruction from middle class members of newly emerging professions were paramount during the interwar period. When new institutions threatened to compete for the university's clientele, extension centers, evening colleges and even full-fledged junior colleges were established by universities, thereby enabling them to maintain control over higher education in their vacinity. Thus, extension became firmly established as a teaching arm of the university and emeshed in the degree-granting process. The California case suggests that this trend was reinforced by faculty members who, anxious to improve their economic status, saw extension teaching as an opportune way to make extra money. During the depression years the faculty even passed rules which virtually prohibited any but their own ranks from teaching in Extension. In later years much more lucrative consulting opportunities would take Extension's place as the desired income supplement.

Entrepreneurial motives were not limited to the faculty. As extensionists became more sophisticated they too became skilled entrepreneurs. This was particularly true in the period following World War II. Out of the defense programs came strong ties with the military, business and industry, and with them, economic prosperity. Service went unequivocally to those who had the money. In California, Baldwin Woods, a professor of engineering, was appointed head of extension and, symbolizing its new importance, subsequently named a Vice-President of the University. For a while, influential ties and the status of Baldwin Woods gave considerable power within the university; it prospered, and nary a squeak was uttered about university standards or purposes.

The era of good feelings ended abruptly with the change in University, Extension and State Government administrations. The reasons are many and too complex for the scope of this paper. (20) However, one interesting hypothesis that emerges is the possibility that, as core of the University began to develop programs in areas of extension activity, it raised the red herring of standards, or extension's competence to function in that area. This appears to have been true with engineering, education and business. More recently, in a period of fiscal crisis and declining enrollments, the university is talking about adopting "non-traditional" forms of education and suggesting that extension does not have the proper resources to function in this area.

Research on the California case revealed that University controls over Extension have been manifest through administrative and faculty power over appointments and promotions, the University committee structure, and a faculty advisory board. The faculty's greatest source of power has been in its control over degree credit, an area in which it reins supreme. For example, the California credit controversy of the '60's revealed that, even though Extension technically had the right to grant degree credit, degree requirements were so prescribed, both formally and informally, that acceptance of extension-earned credit for degrees was extremely limited. (21) In comparison, Extension had no base of power within the University; the closest it came was through ties with influential members of the public, and being able to show how important its existence was to the well-being of the University.

In California, Extension was not a top University priority; when it was, its value was perceived as instrumental to the realization of autonomous University goals. Extension variously served the University in political and public relations capacities; it was used to stay movements for rival institutions by accommodating popular demands for access to the University. In the process, it acted as a buffer, protecting the University's basic research, teaching and scholarly functions from public onslaught. Ironically, despite the fact that the most devastating charge levied against Extension was that its academic standards were inherently inferior, Extension may actually have enabled the University to maintain its elite standards. It has been an important means by which the University could perform both elite and popular functions.

The California case reveals that service was not a discrete University goal. Bases of legitimacy within the University were not shifted in order to accommodate social needs; these were tolerated only if they would not endanger academic goals. The overwhelming evidence is that service was considered a by-product of regular teaching and research, and University policies were unaffected by social value or utility. Service was rarely even alluded to; when it was, relevant University activities were listed in order to legitimize the University as a recipient of public spending. Significantly, even when service was referred to, Extension was not considered in that light until the postwar era. Instead, Extension was clearly identified as a teaching division and, in that sense only, functioned as a popular arm of the University.

This suggests that a viable land-grant tradition did not exist, except as it may have thrived in the College of Agriculture, and even that is subject to question. The main core of the University has struggled to remain unaffected by popular mandates, begrudgingly accepting such only when they have been foisted upon it. The administration has been more aware of the necessity that the University be relevant to society, particularly in terms of its importance for public support. The main source of resistance has been the faculty which has refused to evaluate service positively in considering program success or professorial promotion.

Despite the current tendency to legitimize social responsibilities in terms of the land-grant tradition, the notion of service as a separate, legitimate University function is a relatively new one. In California, except for the Howerth period, even Extension did not seek to legitimize its programs in terms of public service until the latter part of the 1950's, a good five years before the University began to ponder social responsibilities. That search was a response to public clamor and outside funding, the most important source of which was mandated by the 1965 Higher Education Act.

At the University of California, President Hitch has encouraged the exploration of ways in which the University might apply its resources to community problem solving, and serve a wider clientele by opening up part-time degree possibilities. To what extent this concern for meeting public needs is a manifestation of the need to win public support at a low point in the University's history remains to be seen; nonetheless, service possibilities are being pursued at the University with an unprecedented enthusiasm.

Enthusiasm and good will, however, have yet to result in substantive changes in University priorities or policies; there has not been reallocation of funding, promotional policies continue to emphasize research and publication, the forms necessary for the articulation and focus of University resources have not been implemented, and values do not appear to have changed significantly. The faculty continues to emphasize that "the eminence of any great University lies in its relatively detached perspective and in its freedom to pursue knowledge and truth for their own sakes." (22)

The ascendance of professionalization has been one of the most pervasive influences upon Extension's development. Its effect has been threefold: (1) the mushrooming of new clientele groups with needs for credentialing, upgrading and updating; (2) the rise of the academic profession as a potent force in University policy determination; and (3) the emergence of adult education as a specialized area of expertise and professional identity. The California case suggests that while the professionalization of adult education served to endow Extension work with a degree of sophistication, it also contributed to conflict within the University as allegiance to the practical imperatives of adult education clashed with academic values.

Our knowledge about professionalization's consequences is still limited, but there is reason to believe that, in spite of the rhetoric about clientele service, it may have instead encouraged bureaucratic forms and a preoccupation with status which may instead have driven a wedge between the professional and the client. (23) There are traces of this in Extension where one notes the development of large professional staffs, new experts preoccupied with craft, sophisticated techniques and "high quality" programs rather than a direct "rubbing of the elbows" with the client. (24) And so continuing education replaced adult education, and powerful interests rather than the "little man" received the focus of our attention.

The standards issue appears to have been closely tied to the professional drives for status by the academic man who sought to control the licensing of his fellow professionals and to monopolize the right to practice "higher education" or the granting of degrees and credentials. As the academic market place becomes tighter, one can anticipate that the drive to remove extension from the degree-credit area will intensify. On the other hand, still seeking acceptance within the University community, as well as a stable clientele and support base, extensionists will most likely seek new areas for credit-granting; they will probably succeed through the institutionalization of compulsory continuing education, measured through a new form of credit, the continuing education unit (CEU).

It is ironic that precisely at that juncture in history when universities are considering alternative forms, extension is talking of standardization through CEU's. The irony would be more complete if the alternative forms, when implemented, were truly "nontraditional." To do so, they must either escape control by traditional academic values, as has been demonstrated by the Extension experience, or academic values must change. External pressure may yet cause that to happen; when and if it does, chances are that adult educators will be left behind, as has already happened in several experimental endeavors, one case in print being California's Extended University.

Perhaps our being left behind is legitimate. History indicates that we've not been as innovative as we'd like to think. Thus, in response to the argument that adult educators have been involved in nontraditional study for some time, Samuel B. Gould, head of the Commission on Nontraditional Study, agrees that

> there is some validity in this argument, since the statistics of continuing education look impressive and the acheivements seem significant. The trouble is that the public wants much more than is currently offered, wants it in a different and more flexible style, and contains large segments which have thus far been served very little, if at all, by continuing education. (25)

Gould's statement is probably true. While we may have made some headway in understanding why, more questions than answers confront us as we try to unlock the past and understand the present. My historical research on California suggests that the past may not have been as pleasant as we'd like to believe. Further research is needed to substantiate or refute some of the generalizations emerging from that study. Most important, we must begin the probing analyses that will enable us to understand how we have functioned within society and the forces that have driven us to function accordingly. Only then can we hope to control our future.

FOOTNOTES

1. Thorstein Veblen, as quoted by Wilbur C. Hallenbeck, "The Role of Adult Education in Society" in Gale Jensen, A.A. Liveright and Wilbur Hallenbeck, *Adult Education: Outlines of an Emerging Field of University Study* (Washington, D.C.: Adult Education Association of the U.S.A., 1964) p. 10.

2. Jim Hightower, *Hard Tomatoes, Hard Times* (Washington, D. C.: Agribusiness Accountability Project, 1972).

3. Ed.D. Dissertation University of Georgia, 1969. Available through University Microfilms.

4. Ed.D. Dissertation, George Washington University, 1967, p. 153. Available through University Microfilms.

5. Ed.D. Dissertation, New York University, 1963. Available through University Microfilms.

6. Ph.D. Dissertation, University of Georgia, 1968. Available through University Microfilms.

7. Frederick M. Rosentreter, *The Boundaries of the Campus: A History of the University of Wisconsin, Extension Division, 1885-1945* (Madison: The University of Wisconsin Press, 1957) p. 178. Although he does not explain the cause, Rosentreter indicates that William Lighty tried to get the NUEA to stop the publication of Hall-Quest's study. Hall-Quest questioned the educational value of some extension activities and emphasized the need for good instructors and library facilities.

8. Ph.D. Dissertation, Florida State University, 1968. Available through University Microfilms.

9. Kathleen R. Penfield, "Academic Excellence vs. Public Service: Conflict and Accommodation within the University as Revealed in the Development of University Extension at the University of California," Ph.D. Dissertation, University of California, Berkeley, 1972.

10. Charles J. Hitch, "Problems and Opportunities of the Extended University," *Proceedings*, 25th All-University Faculty Conference, University of California, March, 1970.

11. Theodore J. Shannon and Clarence A. Schoenfeld, *University Extension* (New York: Center for Applied Research in Education, Inc., 1965).

12. Laurence R. Veysey, *The Emergence of the University* (Chicago: University of Chicago Press, 1965), p. 341.

13. Carnegie Commission on Higher Education, *The Campus and the City: Maximizing Assets and Reducing Liabilities* (New York: McGraw-Hill Book Co., 1972).

14. Charles Mills Gayley, *Idols of Education* (New York: Doubleday, Page and Co., 1910), p. 65.

15. Charles Mills Gayley, "University Extension in California, University Extension Magazine, Philadelphia, (February, 1893). The figures are for 1891-92; only 172 had elected to take the course exams for credit.

16. The Berkeleyan, November 15, 1895.

17. Kathleen R. Penfield, "University Extension During the Progressive Era: California Experiments with the Wisconsin Idea, 1912-1918," Paper read at AERC, April 8, 1972 (mimeographed).

18. Ira Woods Howerth, "A Reply to a Statement of the Regents of the University of California Regarding the Case of Ira Woods Howerth," in President's Files, 1919: 490.

19. Rosentreter, op. cit., pp. 164-168.

20. For greater detail, see Penfield, Conflict and Accommodation, op. cit., chapter 8.

21. For the entire controversy, see Ibid., pp. 356-366.

22. Report of Study Committee No. 3, Proceedings, 25th All-University Faculty Conference (March 25-27, 1970), University of California p. 27. Also telling are the Proceedings of the 24th All-University Faculty Conference which addressed the University's role in the "Urban Crisis."

23. Howard M. Vollmer and Donald L. Mills (ed.) Professionalization (Englewood Cliffs: Prentice-Hall, 1966) is the most complete work on the subject. For an interpretation of the consequences of bureaucracy and professionalization inthe public schools, see Michael B. Katz, Class, Bureaucracy and Schools: The Illusion of Educational Change in America (New York: Praeger, 1971), esp. pp. 66-73.

24. A classic statement of differing ideological positions on these is Leonard Freedman and Hilton Power, The Few and the Many: Two Views on Public Affairs Education (Boston: CSLEA, 1963). For transition to "professional" concerns as evidenced in the literature see Webster E. Cotton, On Behalf of Adult Education: A Historical Examination of the Supporting Literature (Boston: CSLEA, 1968).

25. Samuel B. Gould, "Less Talk, More Action" in Dyckman Vermilye (ed.), The Expanded Campus (San Francisco: Jossey-Bass, Inc., 1972), p. 179.

ESSAI D'APPLICATION DE L'APPROCHE SYSTEMIQUE A L'ANALYSE D'UN SERVICE UNIVERSITAIRE D'EDUCATION PERMANENTE

Résumé sommaire
pour présentation
à l'Adult Education Research Conference

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Gaston Pineau
Division de la recherche - Service d'Education Permanente
UNIVERSITE DE MONTREAL

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1

PROBLEMATIQUE ET OBJET DE LA RECHERCHE

1.1 Problématique d'Education Permanente qui remet en cause l'organisation universitaire tant :

- de l'éducation de jeunes
- que de l'éducation des adultes.

1.2 Objet de la recherche : Le Service d'Education Permanente (S.E.P.) de l'Université de Montréal, pour en dégager l'apport, comme organisation, à la construction d'une Université d'Education Permanente, entendue comme une université capable de répondre aux demandes éducatives de groupes sociaux, différenciés par leur appartenance tant aux classes sociales qu'aux classes d'âge.

- Justification du choix de l'objet : Le S.E.P., par la nécessité de rejoindre de nouveaux groupes sociaux, vit un processus de différenciation de l'organisation universitaire classique.

  Ce processus de différenciation s'opère principalement par deux moyens :

  1- des sous-commissions d'études
  2- des systèmes de programmation

- L'hypothèse est que ce processus de différenciation esquisse un nouveau modèle organisationnel concernant l'organisation de la relation université-environnement.

2

LOCALISATION DE L'OBJET DE RECHERCHE

2.1 Historique et situation du S.E.P.

- 1952 Service d'Extension → 1968 → S.E.P.
  - ① - une créditation des programmes de formation (Certificats) donc liaison académique renforcée
  - ② - un développement original des programmes et des systèmes de programmation.

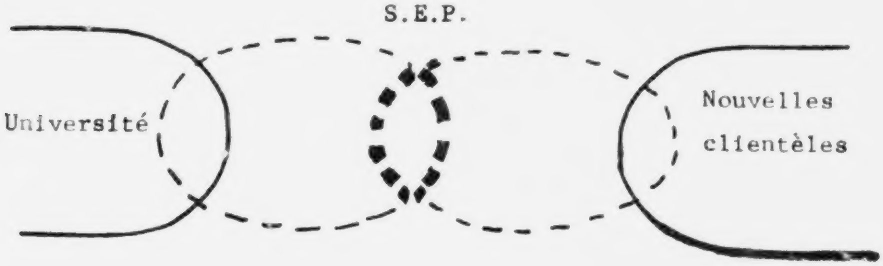
  Année 71-72 → 23 certificats - 4106 étudiants - 275 professeurs - 10 responsables de programme.

- Cependant situation marginale par rapport à l'organisation universitaire
  - Juridiction limitée du SEP sur les Certificats (élaboration-programme);
  - Difficulté de passage au 2ème et 3ème cycle;
  - Statut officiel insatisfaisant pour les responsables;
  - Pas de corps professoral permanent.

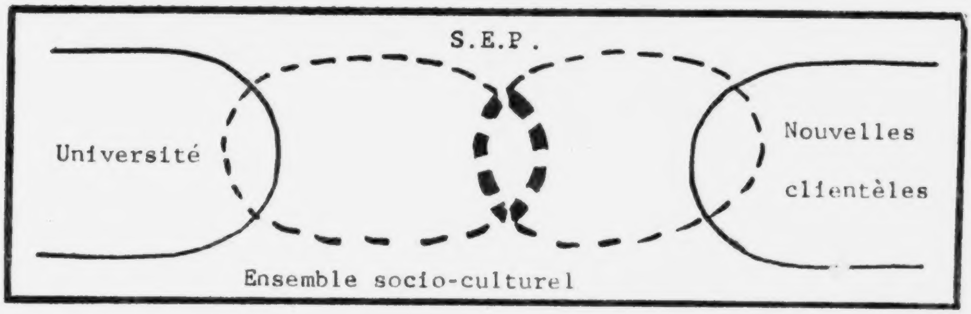
2.2 Importance pour la recherche d'analyser son objet (le S.E.P.) dans :

1- sa situation de marginalité : le SEP est apparu et se développe ENTRE l'Université et de nouvelles clientèles : un rôle de relais;

2- son développement historique : des éléments de relais se sont ajoutés les uns après les autres et leur ensemble tend à se différencier actuellement comme système social organisé.



2.3 Importance aussi de situer ces trois ensembles (Université-S.E.P.-Nouvelles Clientèles) dans l'ensemble plus vaste qui les englobe : l'ensemble socio-culturel. Le tout peut se visualiser ainsi :



Le modèle d'analyse devra donc pouvoir rendre compte des éléments et des relations :

1/ de l'ensemble socio-culturel dans sa globalité;

2/ des trois sous-ensembles (Université-SEP-Nouvelles clientèles);

3/ de l'interaction entre ① et ②, c'est-à-dire de l'interaction entre un ensemble socio-culturel et un ensemble éducatif.

3

LE MODELE DU CIRCUIT DE CONNAISSANCE DE R. G. HAVELOCK *

3.1 Présentation générale

R. G. Havelock caractérise l'ensemble socio-culturel de façon dynamique comme un circuit permettant un transfert de connaissance entre un système ressource et un système client. Le transfert peut s'opérer à quatre niveaux : individuel, interpersonnel, organisationnel et inter-organisationnel. Les systèmes ressource et client sont, suivant les niveaux, soit :

- un sous-système de la personne, vue comme génératrice de problèmes et de solutions;
- une personne;
- une organisation;
- plusieurs organisations.

Le système client est le destinataire ultime de la connaissance : c'est lui qui lui donne sa raison d'être. Il joue principalement un rôle d'utilisateur. Pour répondre aux demandes du système client, le système ressource doit se diversifier et se répartir différents rôles. Havelock distingue trois rôles fondamentaux : un rôle de recherche fondamentale (Production de connaissance sans référence à ses applications possibles), un rôle de recherche-développement (Production de connaissance explicitement en vue d'une application), un rôle d'application (Diffusion de connaissance sous forme de produits et/ou de services).

Au niveau inter-organisationnel, ces rôles tendent à être joués par des organisations différentes. Un problème complexe d'articulation se pose

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* Ronald G. Havelock, Planning for innovation through Dissemination and Utilization of Knowledge, Center for Research on Utilization of Scientific Knowledge, University of Michigan, Ann Arbor, Michigan, 1971.

donc pour que le circuit macro-social de connaissance fonctionne au profit du systèmeclient représenté par la masse desconsommateurs. Souvent ce sont les impératifs des organisations de recherche ou d'application (industries, services) qui déterminent le circuit de connaissance, au détriment du système client. Certaines organisations (gouvernement, mass média) peuvent jouer un rôle de correcteur et de régulateur. Mais la complexité actuelle est telle que Havelock note l'apparition d'un cinquième rôle dans ce circuit : rôle de couplage (linkage) joué de façon temporaire, mais tendant à devenir permanente, par des individus ou des organismes spécialisés.

Les schémas suivants visualisent les inter-connexions des rôles et donnent une représentation approchée des inter-connexions entre les organisations qui jouent ces rôles.

3.2 Inter-connexion des rôles

Le schéma 1 indique idéalement toutes les connexions possibles entre les rôles sans tenir compte des différentes barrières plus ou moins fortes qui,concrètement, existent dans les interfaces. Le schéma 2 veut tenir compte de ces barrières et présente en traits pleins les connexions centrales et en pointillés les connexions marginales : les connexions centrales s'effectuent de façon uniforme; ce qui veut dire par exemple que les messages issus du monde de l'utilisation passent le plus souvent par le crible du monde de la pratique et n'arrivent que transformés au monde de la recherche.

Schéma 1 : MODELE IDEAL DE L'INTER-CONNEXION ENTRE LES ROLES DU MACRO-SYSTEME DU FLUX DE CONNAISSANCE (Tiré de R. G. Havelock, op. cité, p. 3-4).

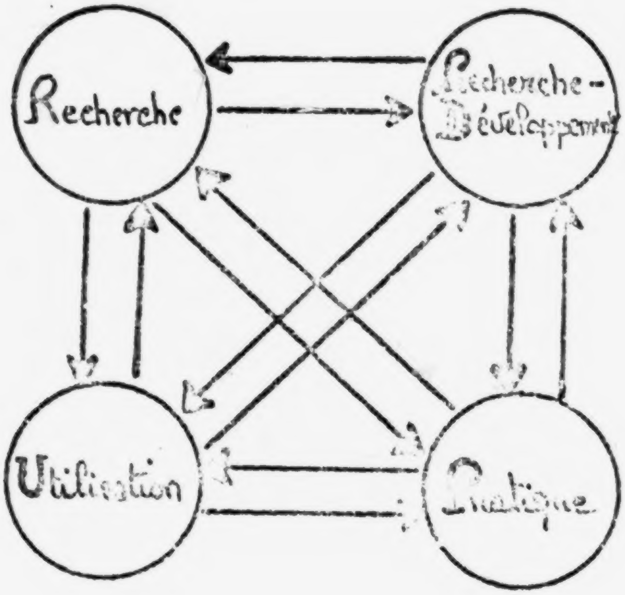
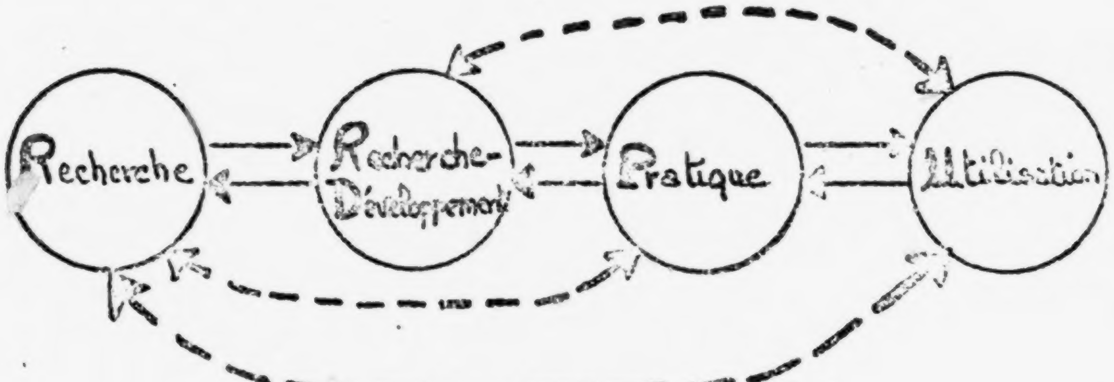


Schéma 2 : MODELE SUGGESTIF DES INTER-CONNEXIONS CENTRALES ET MARGINALES ENTRE LES ROLES (Tiré de R. G. Havelock, op. cité, p. 3-4-).



3.3 Inter-connexions des organisations

Le schéma 2 suggère comment les différents rôles s'articulent actuellement dans un ensemble socio-culturel occidental typique. Le schéma 3 présente plus concrétement un tableau des organisations qui jouent ces rôles suivant cette structure.

1- à droite, se trouve le sous-système le plus grand et le plus diffus, celui des utilisateurs de la connaissance ⑥ (clients, patients, étudiants, ...). Bien que ce sous-système soit le receveur et le bénéficiaire ultime du macro-système, c'est lui qui est le moins organisé et le moins influent. Il peut naturellement influencer les autres sous-systèmes par ses demandes et, en démocratie, par ses représentants élus au gouvernement. Mais malgré tout il reçoit plus d'inputs qu'il n'en donne. Les inputs viennent soit des organismes de services (hôpital, école,...), soit des entreprises, soit directement des professions (psychologues, ...), ou encore des média. Ces sous-systèmes sont donc les premiers mécanismes de couplage entre les utilisateurs et les experts du monde de la recherche.

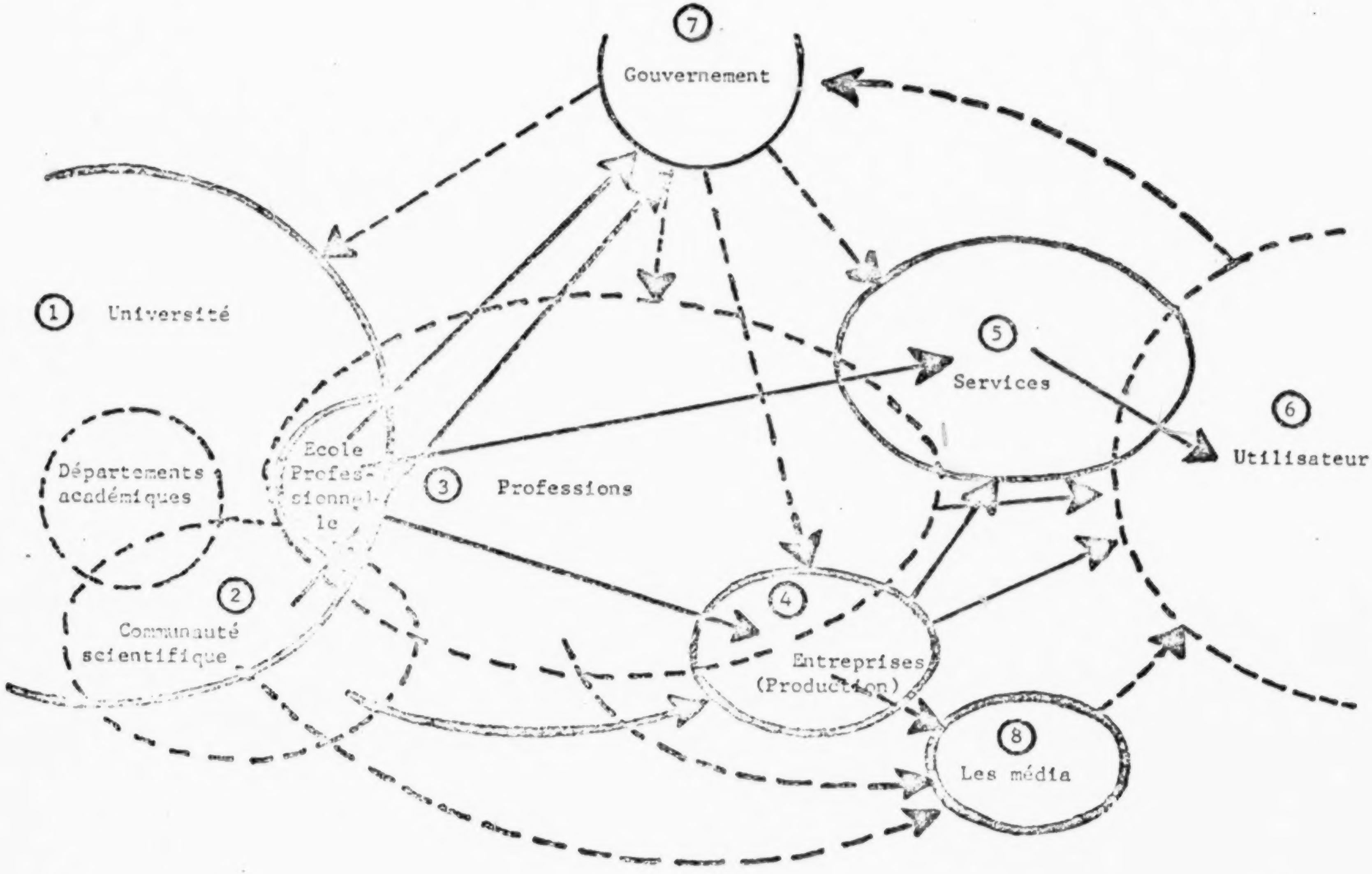
2- Les professions ③ jouent en plus un rôle essentiel de couplage entre le monde de la recherche et les organismes de services et de production. Dans quelques secteurs, les professions joignent directement les utilisateurs, indépendamment des organismes mentionnés; c'est le cas des juristes et parfois des médecins. En éducation, ces services professionnels directs étaient le modèle avant que Platon fonde l'Académie, mais actuellement ils sont rares.

3- La société scientifique ② chevauche les professions et l'université. Havelock précise qu'elle tend plus à se rapprocher des départements à l'intérieur de l'université que des organisme de services et de production.

4- L'Université ① comme un tout fournit une large ombrelle institutionnelle à une grande variété d'experts. Pour chaque champ de recherche, l'université est la place où les experts se sentent chez eux. Aussi la verrons-nous comme un sous-système géant ayant une importance primordiale dans le macro-système de connaissance.

5- Les média ⑧ représentent un canal direct de diffusion entre les chercheurs et les praticiens de toutes sortes et la grande majorité des consommateurs. Aussi sont-ils souvent utilisé pour passer par-dessus les organismes habituels.

Schéma 3 : Modèle interorganisationnel du flux de connaissance
(tiré de R. G. Havelock, *op. cité*, p. 3-5).



3.4 Inter-connexions des organismes spécialisés de couplage

Dans le schéma 3, l'université est vue comme jouant principalement un rôle de production des connaissances (Recherche fondamentale et Recherche Appliquée), et un rôle de diffusion par le canal du sous-système des professions entièrement constituées* (professions libérales : droit, médecine, art, enseignement, et professions technico-scientifiques : ingénieurs). Les inter-relations entre l'ensemble éducatif représenté par l'université et l'ensemble socio-culturel représenté par les autre éléments du schéma ne posent pas de problème tant que les demandes éducatives auxquelles l'université répond proviennent des professions entièrement constituées.

Cependant cette liaison privilégiée fait écran entre l'université et d'autres demandes pouvant venir soit de professions émergentes (semi-professions), soit directement du monde des "utilisateurs" de la connaissance, non-engagés dans un système professionnel : vieillards ou adultes se regroupant dans différentes associations de consommateurs (locataires, acheteurs, étudiants, malades, prisonniers, ...). La distance socio-culturelle entre ces groupes et l'université est si grande que la liaison demande-ressource s'effectue peu souvent ou de façon accidentelle et anecdotique.

Ainsi apparaît la nécessité d'éléments et d'organismes jouant un rôle spécifique de couplage entre l'université et de nouveaux groupes de demandeurs. Le rôle de ces organismes est double :

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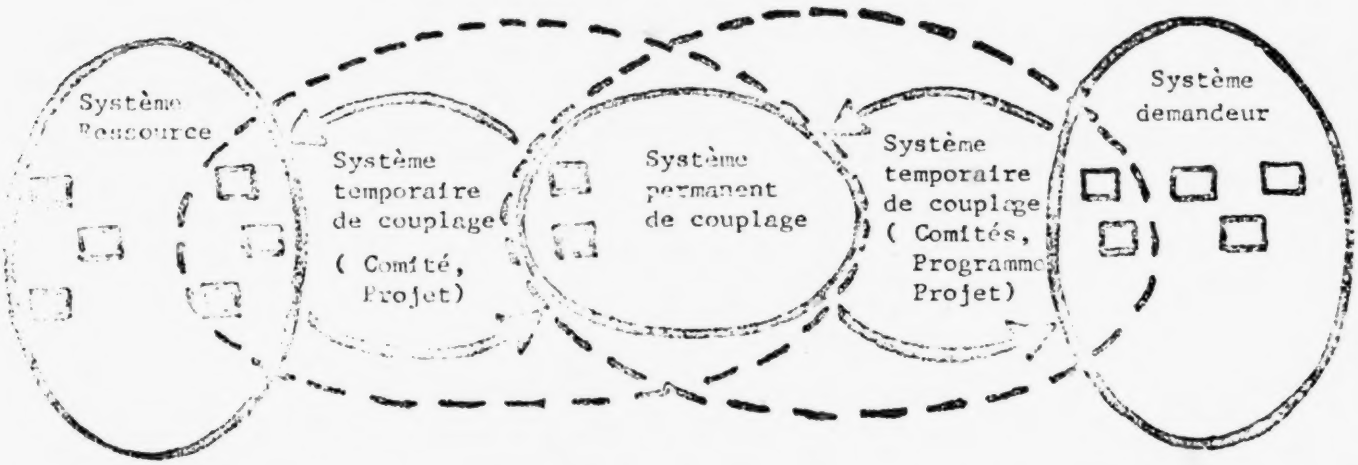
*Comme définition de professions entièrement constituées, la présence d'éléments structuraux est généralement reconnue comme nécessaire : une association professionnelle, un corps de connaissance spécifique, une organisation de formation, un statut légal. Cf. R. H. Hall, Occupations and the social structure, Prentice-Hall, Englewood Cliffs. N.J., 1969, p.79.

> d'une part, représenter les nouveaux groupes; informer l'université sur les exigences de leur demande et contribuer ainsi à la définition de la réponse. D'autre part, établir avec les représentants de l'université un certain nombre de règles ayant trait à l'application de la réponse et en imposer le respect auprès des nouveaux groupes

En fait, un système permanent de couplage noue deux sortes de couplage, l'un avec le système ressource, l'autre avec le système demandeur. Ce double couplage s'effectue avec des éléments permanents : directeur, informateur, consultant, ou comités conjoints, conseils de direction, charte de fondation,... et avec des éléments temporaires : comité de travail, commission, projet, programme. La présence de ces éléments temporaires est absolument nécessaire pour conserver au système permanent souplesse et ouverture. D'autre part, pour que ce système de couplage ait l'autonomie et l'homogénéité nécessaires à son fonctionnement, ces éléments doivent assurer la présence de trois sous-systèmes constitutifs d'une organisation : les sous-systèmes de décision, d'opération et d'information * (Cf. Schéma 4).

Schéma 4 : SEPARATION ET LIAISON DES SYSTEMES DE COUPLAGE (Tiré de R. G. Havelock, op. cité, p. 7-35).


Système Ressource
Système temporaire de couplage
(Comité, Projet)
Système permanent de couplage
Système temporaire de couplage
(Comités, Programme Projet)
Système demandeur

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* Cf. G. Métayer, Cybernétique et organisations, Paris, Les éditions d'organisation, 1970, p. 76-77.

4

APPLICATION A L'ANALYSE DU S.E.P.

4.1 Le S.E.P. : organisme de couplage

Le processus de différenciation du S.E.P. sera vu et analysé comme la mise en place et le développement d'éléments devant jouer ce nouveau rôle de couplage.

La mise en place d'un tel système suppose, nous l'avons vu, deux sortes de couplage, l'un avec le système ressource (l'Université), l'autre avec le système client; dans notre cas ce système client est représenté par des groupes sociaux qui ne sont ni les clients habituels de l'université, ni le plus souvent assez homogènes et autonomes pour constituer un système. Ces deux couplages posent donc des problèmes très différents : dans le premier cas, le couplage est à opérer avec une organisation très structurée, dans le second cas avec un public indéfini. Ces deux couplages ont donc été étudiés séparément suivant leur évolution chronologique. Il s'agissait ensuite de déterminer la nature d'un système jouant de façon permanente ce rôle de couplage et le nouveau modèle organisationnel de la relation Université-Environnement qu'il appelle.

4.2 Choix des indicateurs et formation des indices

Dans l'ensemble informationnel constitué par les sous-commissions d'études, les indicateurs de base seront les propositions soumises et acceptées. Ces indicateurs fournissent les indices de couplage suivants : éléments et règles officiels de fonctionnement du système. La formation de ces indices ne pose pas de problème dans la mesure où les propositions les explicitent. L'étude des documents officiels couvrant le travail de ces sous-commissions fut suffisante pour les ressortir.

L'information fournie par ces indices n'est pas quantitative et concerne surtout les éléments et les règles de couplage relativement permanents.

La mise sur pied de programmes pose des problèmes complexes de diagnostic, de pronostic, de conceptualisation, de décisions collectives, ... et constitue un champ d'études formelles depuis au moins 1918[*]. Nous n'étudierons pas cette mise sur pied dans les détails. Nous partirons seulement de trois indicateurs - personnes, message, temps - pour caractériser ces différents systèmes temporaires de couplage. Dans ces systèmes temporaires de couplage, quatre grands sous-ensembles d'opérationsont été distingués :

- la gestation qui regroupe les opérations se situant entre l'apparition de l'idée de certificat et la création d'un comité de travail;
- la conceptualisation, qui englobe les opérations se situant entre la création du comité de travail et l'approbation du certificat par la Commission des Etudes;
- la réalisation et l'évaluation qui peuvent amener une nouvelle gestation et conceptualisation du certificat.

C'est à partir de la variation des trois indicateurs dans ces quatre ensembles que les indices vont être construits (Cf. Tableau 1).

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[*] L'ouvrage de Franklin BOBBITT, The Curriculum, Boston, Houghton Mifflin Company, 1918, est cité généralement comme la première étude systématique sur le problème.

TABLEAU 1

CONSTRUCTION DES INDICES DE CARACTERISATION DES CERTIFICATS

Ensembles d'opérations	Données d'entrée		
	Personnes	Message	Temps
Gestation	① Personnes à l'origine du projet, selon qu'elles appartiennent au S.E.P. ou non.	② Nature du message : idée, cours, projet.	③ Temps approximatif de gestation.
Conceptualisation	④ Composition du Comité de Travail selon l'appartenance systémique des membres.	⑤ Programme Eléments communs El. de Rég. Pédagog Eléments spéciaux.	⑥ Temps de conceptualisation Temps d'approbation Temps global.
Réalisation	⑦ Nombre d'étudiants ⑧ Pourcentage de personnes-Ressources appartenant à l'Université et n'y appartenant pas ⑨ Ratio Etud./Pers.-Ress	⑩ Nombre de cours empruntés aux cours réguliers de l'Université.	⑪ Temps de réalisation (depuis début des cours jusqu'en septembre 1972).
Evaluation	⑫ Evaluation systémique ou non ⑬ Retour du Programme à la C.E.		

5

RESULTATS

5.1 COUPLAGE S.E.P.-UNIVERSITE

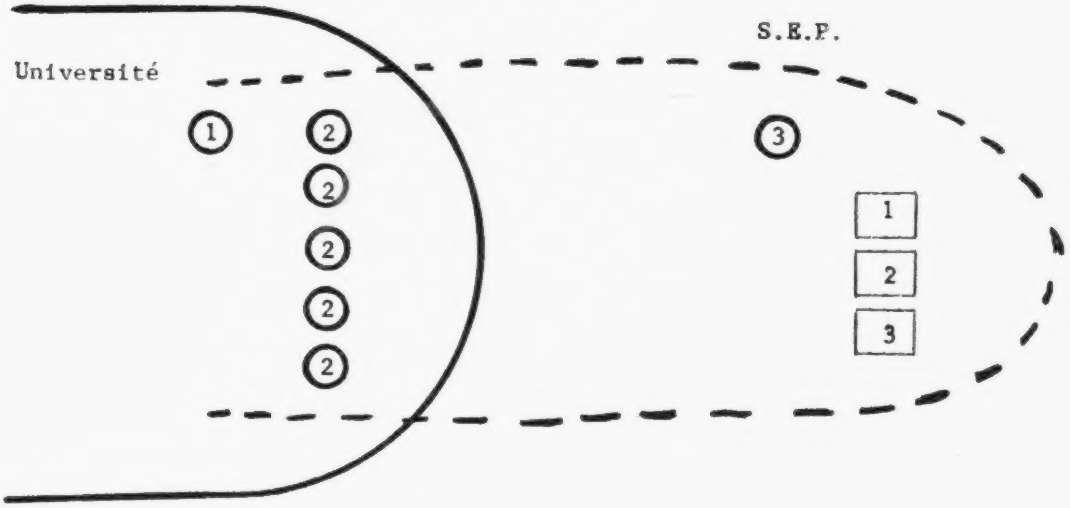
En résumé et conclusion de l'analyse de ce couplage, les données suivantes ressortent. Des éléments de couplage ont été mis sur pied officiellement au Service d'Education Permanente et à l'Université. Ce sont :

- soit des individus : à l'université, un vice-recteur responsable, entre autres choses, de l'Education Permanente et un adjoint au doyen pour l'Education Permanente dans chaque département ou faculté; au S.E.P., un directeur;
- soit des comités, composés de représentants du S.E.P., de l'université et du public adulte : le Conseil du S.E.P. (CONSEP) comprend 9 personnes de l'université, 1 du S.E.P., 5 du public. Pour chaque programme de formation crédité, un comité de travail et un comité pédagogique existent avec une représentation tripartie (Cf. Tableau 2).

Les dernières décisions officielles d'ensemble qui déterminent le rôle de ces éléments et leur articulation datent de 1968 et 1970. Cependant le système de couplage qui en résulte ne répond que partiellement à la question fondamentale posée dès 1957 : "A qui l'initiative des opérations revient-elle quand il s'agit d'étendre les fonctions éducatives de l'université au-delà des cadres habituels ?". En effet cette question soulève prioritairement des problèmes d'ordre décisionnel et opérationnel,

SCHEMA 5

COUPLAGE S.E.P.-UNIVERSITE



① Vice-recteur responsable entre autres choses de l'Education Permanente.

② Adjoint au doyen pour l'Education Permanente dans chaque département ou faculté.

③ Directeur du Service d'Education Permanente.

1	Conseil du S.E.P.	triparti
2	Comités de travail	tripartis
3	Comités pédagogiques	tripartis

et la plupart des éléments officiels composant le système sont d'ordre informationnel :

- C'est évident pour les Comités de travail et les Comités pédagogiques qui cueillent et traitent de l'information à soumettre au Conseil du S.E.P.. Mais ce Conseil du S.E.P. dont la représentativité devrait assurer un large champ de décision doit s'en remettre au verdict des conseils de faculté : ainsi un représentant de faculté siégeant au CONSEP peut approuver un projet qui est ensuite refusé par sa faculté. Le caractère représentatif de ces comités ou conseils de couplage est vu comme devant assurer davantage une distribution de l'information qu'une délégation de pouvoir.

- Le rôle du vice-recteur, responsable entre autres choses de l'Education Permanente, et celui de l'adjoint au doyen pour l'éducation permanente au niveau des facultés n'ont jamais été clairement définis et peu de traces de l'exercice de leur pouvoir sont trouvées. Là aussi la perspective de faire circuler l'information, cette fois au niveau de la haute direction, semble avoir primé celle de déléguer le pouvoir. Quant à la troisième personne prévue officiellement, le directeur du S.E.P., ce n'est que récemment qu'elle a été nommée membre régulier de la Commission des Etudes, et encore est-ce à titre personnel.

N'ayant donc pas d'éléments décisionnels pour traiter d'égal à égal avec les facultés, le S.E.P. en a encore moins pour prendre l'initiative d'utiliser de façon conjointe leurs ressources au-delà de leur cadre habituel. Si cette utilisation a pu cependant s'effectuer, c'est grâce à l'action d'éléments opérationnels curieusement absents de tout texte officiel et dont l'appellation a changé : coordonnateurs, conseillers pédagogiques et actuellement responsables. Profitant des larges zones d'incertitude laissées par les problèmes de juridiction non tranchés ou tranchés de façon non fonctionnelle, ce sont ces éléments opérationnels qui ont développé les certificats par des alliances officieuses avec ou sans les facultés. Ces éléments opérationnels, pour pouvoir développer leurs actions, aspirent à une reconnaissance officielle. Le système officiel de couplage de 1970 les ignore.

Le sentiment d'insatisfaction des responsables de programmes vis-à-vis du système de couplage S.E.P.-Université ne tient donc pas seulement à l'assemblage plus ou moins facilitateur des éléments de ce système, il tient surtout à l'absence officielle d'éléments décisionnels et opérationnels dans ce système, absence qui n'en fait qu'un embryon de système.

5.2 COUPLAGE S.E.P.-PUBLIC

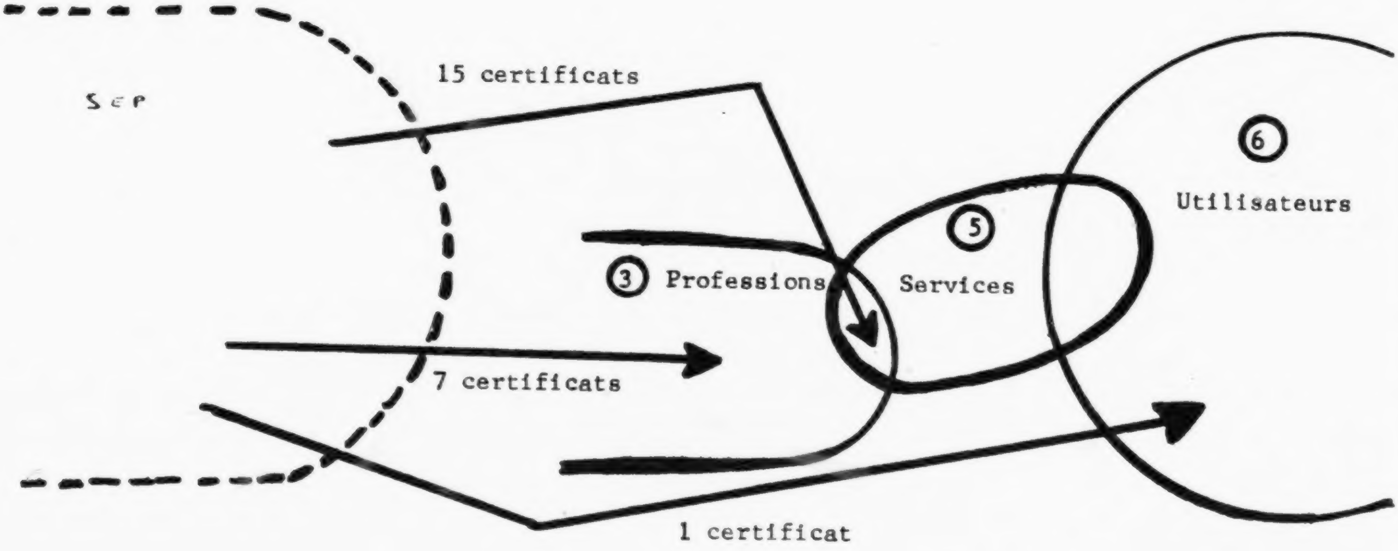
De l'analyse des destinataires visés par les 23 certificats, il ressort que (cf. schéma 6) :

1- 15 certificats visent des destinataires qui s'insèrent à la fois dans une profession et un service précis : éducation (11), santé (3), administration municipale (1). Ces certificats répondent à **des** besoins d'ajustement professionnel d'enseignants ou de para-enseignants (orienteurs, bibliothécaires, responsables des services aux étudiants), d'infirmières ou d'administrateurs, besoins provoqués souvent par une intervention gouvernementale dans la structuration de ces services.

2- 7 certificats visent des personnes engagées dans un processus de professionnalisation relativement autonome, dans le sens où ce processus n'est pas relié spécifiquement à des organismes de services ou de production. Ce processus de professionnalisation peut être plus ou moins avancé : présence ou non des différents éléments structuraux constituant une profession. En prenant l'existence d'une association professionnelle comme critère de partage, 5 certificats se détachent, concernant des fonctions liées surtout au traitement de l'information : traduction, publicité, relations publiques, relations industrielles, recherches opérationnelles. Les deux autres, animation et animation de développement, concernent des personnes qu'aucune association professionnelle ne regroupe et dont le processus de professionnalisation est moins avancé.

SCHEMA 6

COUPLAGE S.E.P.-PUBLIC



Ces deux groupes de certificats se différencient significativement en ce qui concerne les opérations de gestation :

DESTINATAIRE	INITIATIVE	FORME INITIALE DE MESSAGE	TEMPS
Profession / Service	Non-SEP	Programme	variable
Profession	SEP	idée-cours	long

Il en est de même pour le temps de conceptualisation et le nombre d'étudiants et de personnes ressources.

L'interprétation que nous donnons de ces différences ne sera pas présentée ici. Nous préférons faire ressortir le fait suivant : un seul certificat (Etudes Québécoise) n'est pas dans une perspective professionnelle et rejoint des personnes situées dans l'ensemble des utilisateurs de la connaissance.

Ce fait révèle que le couplage avec le public s'est opéré par le biais des professions, selon la même structure linéaire des rôles qui sous-tend le circuit macro-social de connaissance (Cf. Schéma 2).

Le changement apporté par ce couplage dans le circuit de connaissance est un changement d'équilibre dans les limites du sous-système professionnel, mais pas un changement de structure. Un changement structurel de ce circuit impliquerait des couplages avec d'autres sous-systèmes :

- soit qu'ils appartiennent encore au monde de la pratique : sous-systèmes des organismes de service ou de production; les ressources universitaires seraient couplées avec les besoins de formation d'une école en tant qu'école ou avec une entreprise en tant qu'entreprise;

- soit surtout qu'ils appartiennent au monde de l'utilisation : vieillards, regroupement des locataires, des consommateurs, des malades, ...

D'une structure linéaire, on passerait alors à la structure idéale où tous les couplages sont possibles (Cf. Schéma 1).

Une université d'Education Permanente, définie même sommairement comme capable de rejoindre toutes les classes d'âge, ne pourra se réaliser qu'en opérant un changement structurel du circuit de connaissance; sinon elle ne réalisera que l'information continue de ses clients les plus proches (les professionnels et semi-professionnels).

Les nouveaux couplages non seulement répondraient à de nouvelles demandes et mettraient les ressources universitaires à la disposition de l'ensemble des groupes de la société, mais aussi pourraient orienter les groupes sociaux de recherche selon d'autres pôles que le leur ou celui de l'application des connaisssances.

5.3 UN SYSTEME SOCIAL PERMANENT DE COUPLAGE

Les limites du couplage avec le public s'expliquent en partie par celles du couplage avec l'université. Nous avons vu que l'absence d'éléments décisionnels et opérationnels officiels propres au S.E.P. à cet endroit n'en faisait qu'un embryon de système. Cet état le rend incapable d'avoir l'autonomie et l'homogénéité nécessaires pour remplir son rôle de façon spécifique; il le remplit mais dans le prolongement de la dynamique traditionnelle qui unit l'université à son environnement.

Si une université veut rompre cette dynamique, conditionnée par une certaine articulation des rôles de production, diffusion et utilisation des connaissances, les éléments qui se trouvent dans cette zone intermédiaire, prenent une forte valeur stratégique et doivent être renforcés. Nous voyons ce renforcement dans le sens de la constitution d'un système social complet de couplage, c'est-à-dire comportant officiellement des éléments spécifiques de décision, d'information, d'opération.

5.3.1 Eléments spécifiques de décision

L'état systémique embryonnaire du S.E.P. est fruit, en partie, d'un pôle décisionnel qui demeure presque exclusivement l'apanage des corps d'administration générale de l'université. Le processus de différenciation du S.E.P. est constamment soumis à ce pôle qui est extérieur à lui-même et où le S.E.P. est peu représenté. Une représentation plus grande du S.E.P. à ce pôle et une délégation accrue du pouvoir décisionnel à l'organisme triparti qui est censé déjà dirigé le S.E.P. (CONSEP) spécifieraient des éléments de décision déjà existants.

5.3.2 Eléments spécifiques d'information

Ces éléments ne peuvent être réduits aux sous-commissions d'études qui périodiquement recueillent et traitent l'information nécessaire pour redéfinir le système. La mise en place d'éléments permanents d'information s'impose à l'entrée et à la sortie du système ainsi qu'à l'intérieur :

- à l'entrée : un élément "tête chercheuse" et un autre "analyseur". Le premier scrute l'environnement tel un radar pour identifier les changements. Le second trie les informations fournies par la tête chercheuse et les transmet aux autres éléments du système;

- à la sortie : un élément évaluateur apprécie les résultats du système et fournit aux autres éléments un état des ressources, des lacunes et des performances du système;

- à l'intérieur : un élément "designer" est constamment éveillé aux conditions de fonctionnement du système total pour identifier si un meilleur profil ne serait pas plus efficace.

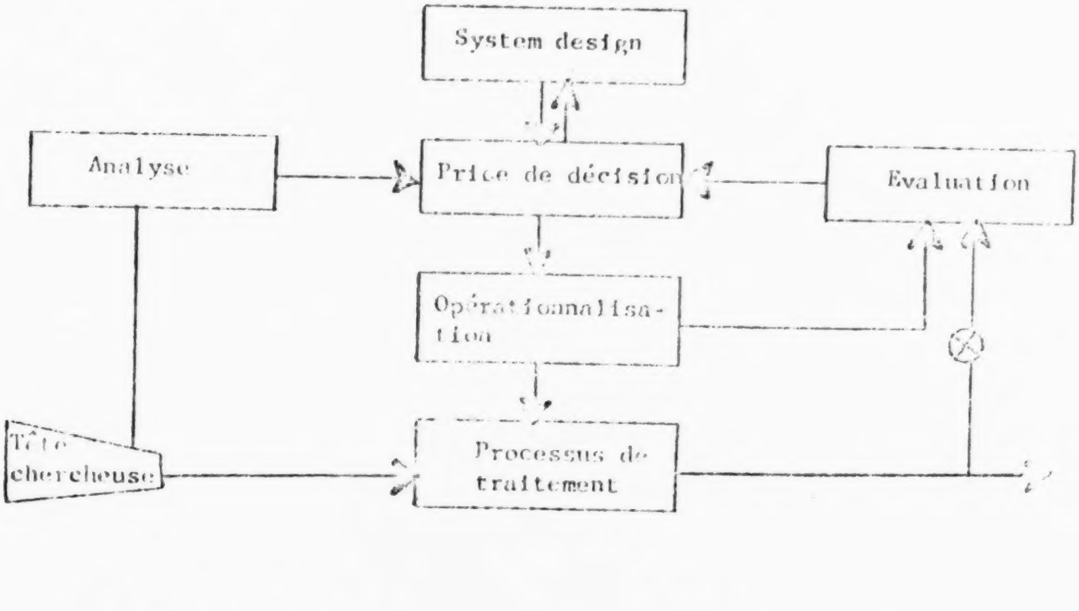
5.3.3 Eléments spécifiques d'opération

Les opérationnels du S.E.P., c'est-à-dire ceux qui réalisent la jonction entre des demandes et des ressources sociales de formation, ne sont pas, nous l'avons vu, des enseignants. Ils sont appelés responsables de programme et en fait sont responsables de multiples opérations allant de la gestation du programme jusqu'à son évaluation en passant par la conceptualisation et la réalisation. Ils ne sont donc pas plus administrateurs ou techniciens. Ils assument et cumulent un certain nombre de fonctions qui devront sans doute se spécifier pour qu'un système de couplage se développe : analyseur de demande, animateur, spécialistes de structuration de contenu, intégrateur de connaissance, orienteur, ... Encore que la nécessité d'une fonction synthèse demeure.

5.3.4 Articulation de ces trois ensembles d'éléments

Pour synthétiser, nous visualisons une articulation possible de ces éléments selon un modèle de système social complet auto-réglé et auto-orienté* (cf. schéma 7).

SCHEMA 7*



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* K. Feyereisen, A. Fiorino, A. Nowak, Supervision and Curriculum Renewal : a Systems Approach, New York, Appleton Century Crofts, 1970, p. 51.

6

CONCLUSION

1. Quelles que soient les difficultés et l'approximation d'une analyse combinant une approche macro et micro-sociale, c'est la seule qui nous a semblé répondre à notre objet et projet de recherche : dégager l'apport en tant qu'organisation, d'un service d'éducation permanente, à la construction d'une université, capable de répondre aux demandes éducatives de groupes sociaux, différenciés par leur appartenance tant à des classes sociales qu'à des classes d'âge.

Cette approche a permis de modéliser le fait que l'université n'est pas ouverte de façon uniforme à tous les secteurs de son environnement socio-culturel, Cet environnement n'est ni un vide social, ni une somme d'individus isolés mais en ensemble de groupes qui s'articulent selon un macro-système de flux de connaissance. Ce macro-système oriente la relation de l'université avec certains groupes appartenant presque exclusivement au sous-système des professions entièrement constituées. Cette orientation conditionne la formation des "jeunes", vue comme préparatoire à l'entrée dans la vie professionnelle; elle risque aussi de conditionner la formation des adultes et l'éducation permanente, si libre cours est laissé à sa dynamique.

2. La création, à l'Université de Montréal en 1952, d'un Service d'Extension de l'enseignement et dans son prolongement, en 1968, d'un Service d'Education Permanente, marque une volonté, de la part des corps universitaires d'administration générale, de nouer et de systématiser des relations

avec de nouveaux groupes sociaux. Nous avons vu qu'en ce qui concerne les relations aboutissant à une formation créditée, c'est-à-dire les relations impliquant de façon académique l'université, les groupes rejoints appartiennent encore majoritairement aux sous-systèmes professionnels*. Cette appartenance est de deux types :

- le premier la conjugue avec une appartenance étroite à des organismes de services : éducation, santé. C'est le cas des enseignants et des para-enseignants dans le système scolaire, celui des infirmières, des techniciens et des administrateurs dans le système hospitalier. Cette double appartenance a des avantages et des inconvénients. Nous soulignons l'inconvénient bureaucratique qui provient de l'appartenance à des organismes précis et qui peut limiter la définition ou redéfinition professionnelle auxquelles correspond la formation qui s'adresse à ces groupes. Un exemple de cet inconvénient est la formation d'agents de loisir, destinée initialement à des directeurs municipaux de la récréation ou des centres culturels. Le développement de cette formation est limité, entre autres, par un profil professionnel étroit trop conditionné par l'appartenance municipale des intéressés;

- le second consiste en une semi-appartenance au sous-système professionnel et concerne des groupes engagés dans un processus de professionnalisation. Ce processus est assez avancé pour les traducteurs, les chercheurs opérationnels, les agents de relations industrielles, de relations publiques et de publicité; moins avancé pour les agents d'animation et d'animation du développement. Globalement, on peut caractériser les difficultés pour établir et développer des relations de formation avec les groupes de ce second type comme inversement proportionnelles au degré de professionnalisation de ces groupes. En effet l'existence d'associations professionnelles, d'un corpus de connaissance spécifique et d'organismes de formation concernant ces groupes sont des éléments essentiels à la construction et au développement d'une relation collective de formation. Leur absence crée des lenteurs, des plafonnements et des efforts pour les créer.

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* Le seul groupe qui fasse exception est celui rejoint par le certificat d'Etudes Québécoises qui s'adresse à "toute personne désireuse d'acquérir une connaissance plus approfondie du milieu québécois".

L'analyse du travail et les difficultés qu'a rencontrés le S.E.P. pour établir la liaison de l'université avec ces groupes ne doit pas faire oublier le dénominateur commun de ces groupes : leur appartenance au sous-système professionnel. Cette appartenance est un indicateur brut révélant que la dynamique du S.E.P., en ce qui concerne les relations "créditées" avec l'environnement, est la même que celle de l'université, même si les groupes d'âge varient. Le changement apporté dans le macro-système du flux de connaissance est un changement d'équilibre dans les limites du sous-système professionnel. Ce changement favorise l'ajustement de certaines professions et l'émergence de nouvelles mais n'affecte pas la structure de ce macro-système de connaissance : les ressources universitaires de formation sont utilisées presque exclusivement par les groupes économiques de production les plus scolarisés et pratiquement pas par d'autres groupes se situant par exemple dans l'autre ensemble social qui est constitué par les utilisateurs ultimes de la connaissance et qui peut être appelé l'univers des consommateurs.

3. Nous avons vu que cette similitude des groupes sociaux rejoints par le S.E.P. et l'Université au-delà des différences d'âge est due en partie à un

état embryonnaire du S.E.P. comme système social : ses éléments décisionnels et opérationnels ne sont pas reconnus officiellement de façon spécifique par les corps universitaires d'administration générale. Cet état embryonnaire ne lui donne pas l'autonomie et l'homogénéité nécessaires pour rompre l'orientation qui relie l'université à certains groupes privilégiés de l'environnement.

4. Une Université d'Education Permanente peut très bien se concevoir comme rendant permanente, par un certain nombre d'aménagements au niveau des départements déjà existants, la formation déjà donnée aux groupes en relation avec elle. Dans cette perspective un organisme comme le S.E.P. n'a joué qu'un rôle de suppléance. Il peut disparaître quand les départements sont prêts et capables de jouer ce rôle.

Mais dans la mesure où l'éducation permanente implique plus que la continuation de la formation déjà donnée et appelle une restructuration du macro-système social du circuit des connaissances, alors le rôle qu'a joué le S.E.P. n'est pas seulement un rôle de suppléance mais aussi et surtout un nouveau rôle qui peut être appelé de couplage entre de nouvelles demandes et d'anciennes ressources de formation. Les limites analysées dans l'exercice de ce rôle proviennent de son état embryonnaire dû à un processus encore inachevé de différenciation de l'organisation universitaire classique. Mais le lieu où il se trouve - à la périphérie de l'université - est le lieu stratégique idéal pour exercer ce rôle et orienter la relation université-environnement selon une dynamique volontariste.

Parachever ce processus de différenciation en constituant cet embryon de système en système complet consacrerait l'apport que le S.E.P. peut apporter à une université s'inspirant de cette seconde dimension de l'éducation permanente : une organisation existerait dont le rôle principal serait de nouer des relations avec de nouveaux groupes sociaux, pour que demandes et ressources universitaires de formation se définissent et se redéfinissent par confrontation périodique et renouvelée.

5. Le rôle de cet organisme de couplage est double : d'une part, assurer la représentation de nouveaux groupes, informer l'université sur les exigences de ceux-ci et par là, contribuer à la nature et au mode d'utilisation des ressources; d'autre part, établir avec les représentants de l'université un certain nombre de règles quant à la diffusion des ressources et en imposer le respect auprès des nouveaux groupes. Ce double rôle met l'organisme de couplage dans une situation permanente de tension et peut l'amener à s'identifier de façon exclusive soit à l'université (tendance à l'intégration), soit aux groupes sociaux (tendance au parallélisme). Epouser une de ces tendances ne favoriserait à notre avis ni l'université, ni les groupes sociaux, car ce serait reproduire un modèle de cloisonnement et non instaurer un organisme de confrontation. Vivre et traiter cette tension au lieu même où elle se noue - c'est-à-dire dans les interrelations - nous semble être un moyen privilégié de changer la structure du circuit de connaissance et d'engager université et groupes sociaux dans un processus de formation permanente.

6. Le S.E.P. est né dans l'interstice social provoqué par l'éclatement de l'ajustement forcé de la "demande" à l'offre éducative qu'entraînait

un quasi-monopole universitaire francophone dans la région métropolitaine. Cet interstice, de plus, s'alimente du phénomène plus général de la crise des organisations éducatives dont l'offre est loin de rencontrer les demandes, même celles qui lui sont encore canalisées. Cet interstice a donc tendance plus à s'agrandir qu'à se réduire, et certains parlent de fossé ou d'abîme qu'il est préférable de supprimer en supprimant l'un des bords : les organisations éducatives. Quoi qu'ils en soient à long terme, il est indéniable que ces organisations possèdent encore des ressources; elles peuvent encore être utiles à condition que leur offre soit redéfinie et recanalisée par une confrontation directe avec des groupes sociaux, reconnus comme possédant eux-aussi du savoir. Or les organisations éducatives, modelées par leur ancien rôle de transmission, ne possèdent pas d'organismes de confrontation de ce genre. La création et/ou le développement de tels organismes semble un élément essentiel de réponse à la crise de la production, de la diffusion, de l'utilisation et de l'appropriation du savoir.

ROLE THEORY, FUSION PROCESS THEORY AND A RATING SCALE AS USED IN AN EXTENSION RESEARCH STUDY IN WEST PAKISTAN*

Muhammad Kalim Qamar**

General Background of the Study:

The general purpose of the study was to determine the working relationship between research and agricultural extension with emphasis on the role of the subject-matter specialists in West Pakistan. A stratified random sample of respondents representing Extension, West Pakistan Agricultural University, Lyallpur, and Research Departments was drawn from the three Provinces of West Pakistan. The author, then a Graduate Assistant at the American University of Beirut, Lebanon, went to West Pakistan and collected necessary data through a field survey, using a special interview schedule, and interviewed the respondents during the summer months of 1971. The data obtained were coded and punched into IBM cards at the Computer Center of the American University of Beirut and necessary calculations made for interpretation of the results. (Qamar, 1972)

Theoretical Background:

Theory is a set of assumptions from which can be derived by logico-mathematical procedures a larger set of empirical laws.

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**Research Assistant, Department of Education, Cornell University, Ithaca, New York.

Theory is a guide to action, a guide to the collection of facts, a guide to new knowledge. One of the most valuable uses of theory is to explain the phenomenon under examination (Griffiths, 1960, pp. 35-37). There is an increasing trend to study the structure and functioning of organizations through the application of various administrative theories. In the study in focus, "role theory" and "fusion process theory" were used.

Role Theory:

Role theory has been applied in a number of studies concerning analysis of administrative structures of various organizations and especially concerning analysis of roles played by the persons holding different positions in different kinds of organizations.

Parsons (1956) has suggested that the structure of an organization may be analyzed either from the point of view of the organizational culture and its institutionalized manifestations or from the point of view of the suborganizations or roles which participate in the functioning of the total organization. According to Getzels (1958), a role has certain normative obligations and responsibilities, which may be termed as "role expectations"; and when the role incumbent puts these obligations and responsibilities into effect, he is said to be performing his role. This study was concerned with the latter point of view of Parsons (1956) and role definition by Getzels (1958). Extension Organizations, Agricultural Research Institutes, and the University are the organizations having, individually, various heirarchical levels signifying horizontal and vertical relationships among various positional groups. These positional groups are suborganizations or roles which participate in the functioning of the total individual organizations. The subject-matter specialists attached with these organizations are the focal suborganizational group which has certain normative obligations and responsibilities regarding research and extension indicated as dependent variables. The study dealt with two aspects; that is, to what extent this particular suborganizational group is putting these obligations and responsibilities into effect at present and to what extent various obligations and responsibilities should be performed by them in the future.

Fusion Process Theory

The "fusion process" with which the Yale group has become identified has been developed over a period of more than 20 years of study in many types of organizations, such as a department of a hardware factory, a business machines factory, a telephone company, a steel mill, two local unions, a commercial bank, an educational institution, a research organization, a bank, and a hospital (Pfiffner and Sherwood, 1960, pp. 373). The primary goal has been the creation of an integrated theory of human behavior that would cut widely across all forms of social organization and would provide a framework for "interpreting, understanding, predicting, and regulating behavior" (Bakke and Argyris, 1954, pp. 1).

The first problem in all organizational life is how to take an aggregate of varied individuals, with varied capacities and predispositions and get them involved in cooperative activity which adds up to success for the organization and satisfaction for the individuals concerned. In short, the problem is to integrate the individual participants with the organization (Bakke and Argyris, 1954, pp. 4). The fusion process is said to occur when the "individual obtains the maximal expression of his personality that is possible, and ... simultaneously, the organization has its demands fulfilled at the highest possible level" (Argyris, 1953, pp. 130). One of the principal features of the social organization is "associating and solving problems together over time in a state of interdependency" (Pfiffner and Sherwood, 1960, pp. 374). The fusion process is composed of individuals, formal organizations, and informal groups engaged in their customary and characteristic activities interacting to achieve a balance or equilibrium, which Bakke and Argyris (1954) have chosen to call "fusion". This simultaneous operation develops for the individual a "role" which constitutes a fusion of his formal and informal functions and conduct. A role in turn can be broken down into units of behavior called "activities", which make up fusions of formal and informal tasks or acts. The positional term applied to these formal and informal fusions and the standing is "status" (Pfiffner and Sherwood, 1960, pp. 376). In order for both the individual and the organization to exist they must maintain their internal organization and they must adapt to their external environment (Argyris, 1953, pp. 128). The organizations are interdependent "processes" that go on simultaneously and are engaged in by individuals. A process is a course or sequence of behavior accomplishing a necessary purpose while a purpose is an intended sequence (Argyris, 1953, pp. 131).

The present study was partly based on the above mentioned fusion process concepts. Some independent variables like age, education, salary, satisfaction with salary, number of supervisors, length of service of the respondents had been included in the questionnaire to see their relationship with selected dependent variables such as the merger of Extension and Research. Since Extension Organization depends upon the results obtained from the Research personnel while the Research Organization including the University are supposed to work on problems normally identified by the Extension personnel, both Research and Extension Organizations depend on each other. The members employed in all the three organizations, according to their "status", perform certain "activities" coming under their "role expectations". To exist in their fields of specialization they must maintain their respective organizations yet they must adopt to their external environment - to the expectations of their clientele. Since Research and

Extension Organizations have the common objective of agricultural and rural development, the efforts of these people with varied capacities must be integrated, coordinated and "fused" for the success of their organizations and the satisfaction of the individuals concerned.

Rating Scale:

The use of various rating scales has been made in many studies related with rating the importance of particular role/s and the role's analysis. Three of the most relevant studies are by Abdullah (1964), Al-Haj and Awal (1969), and Al-Haj and Hassanullah (1969). The latter two studies used a five-point rating scale while the study in view made use of a three-point scale.

The respondents were asked to rate the statements regarding the subject-matter specialist's functional and organizational aspects as they perceived them "at present" and "in future", on a three-point scale ranging from 1 to 3. The scale was:

At present - to what extent the particular function is being performed at present:

1 - never or not at all

2 - sometimes or not regularly

3 - always or regularly

In future - to what degree of importance the particular function is desirable in future:

1 - not important or no need

2 - important

3 - very important

Later on, the scores obtained by each role or function were summed up.

Two Important Considerations About Rating Scales:

Making arbitrary decisions on selection of the "points" for a rating scale is not proper since it may jeopardize the validity of objectivity in rating the importance of particular roles. Surprisingly, this consideration may go deep into social and cultural conditions under which a study is being conducted. For example, if the respondents of an adult education research study are relatively illiterate, the use of a five-point rating scale thus spreading the importance of a particular role over five levels will confuse the respondents in distinguishing, for example, among "very important", "important", somewhat important", "not so important", and "not important". This confusion in terms of choice on the part of the respondents will result in just haphazard rating on importance scale.

The allotment of numerical values to various degrees of importance in rating scale also needs serious thoughts. A difficulty was faced during the study being presented while the respondents, in spite of their high academic qualifications, insisted on alloting "zero" to "never or not at all, and not important or no need" and not "1" only because people in West Pakistan, in general, consider only "zero" equal to "not at all" and not "1".

Likewise, different numerical figures may carry different meaning in different cultures.

Concluding Remarks:

Meaningful dependent and independent variables can be derived from relevant theories for empirical research in the field of adult education. Rating scale is a sort of technique between sample survey and macrosurvey and with some precautions can be used in studies concerning perceived importance of almost anything; for example, roles, needs, leadership, program planning, cultural values, etc. This is particularly helpful in underdeveloped countries where literacy percentage is not high. Later, mathematical calculations can be made. This is a possible solution to the notorious slippery problem of quantitative measuring of perceived importance.

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AN EXPLORATORY DESIGN FOR THE STUDY OF SUPERVISORY EFFECTIVENESS IN THE EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM

Ed Rapking
Virginia Polytechnic Institute and State University
Blacksburg, Virginia

Adult Education Research Conference
Montreal, Canada
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AN EXPLORATORY DESIGN FOR THE STUDY OF SUPERVISORY EFFECTIVENESS IN THE EXPANDED FOOD AND NUTRITION EDUCATION PROGRAM

by Ed Rapking

The rapid growth in the use of paraprofessionals in education has led to a number of questions concerning how an organization can most effectively utilize these new personnel to achieve desired outcomes in policy effectuation. One such question is the amount and type of supervision required to maximize the effectiveness of paraprofessionals. This paper is a discussion of the methodology used in a study which was directed at the question of what factors contribute to effectiveness in the supervision of paraprofessionals in the Expanded Food and Nutrition Education Program (EFNEP) conducted by the Virginia Cooperative Extension Service.

The initial review of literature indicated there was little, if any, research then available dealing directly with the question of supervision of paraprofessionals. It also suggested that methods traditionally used in the study of supervisory effectiveness would be very difficult to apply in the field conditions of the EFNEP. One limitation was the absence of a clearly agreed upon measure of productivity. While the researcher could arbitrarily define productivity, this would leave a question concerning whether the supervisor's performance was being measured by criteria different from those he used to set the goals of his own performance.

Another problem which emerged from the review of literature was the difficulty of selecting independent variables which would have the greatest utility in explaining variation in productivity. It was concluded that the formulation of a correlational study based only on a review of literature would at best be inefficient and might prove misleading.

The question was not well formulated, and it appeared that the literature would not be a sufficient basis for determining how to best approach the question. To treat all the variables in the literature would have been impossible with the resources available. To arbitrarily select a few of the variables for intensive study would be to risk expending resources on trivia.

Based on this lack of previous research and the desire to systematically approach the selection of variables, it was decided to make the study exploratory. In the exploratory approach an attempt would be made to achieve a more adequate conceptualization of the question. Seltiz, et. al. (1959) support the use of exploratory studies for gaining "familiarity with a phenomenon," achieving "new insight," formulating "a more precise research problem," and developing "hypotheses." For this study it was determined that the purpose would be to explore the general question of supervisory effectiveness. This exploration would be used in formulating hypotheses for future testing. The exploration would also be used in developing some of the conceptual base for the hypotheses which were developed.

Seltiz et. al. (1959, p. 53) suggest three methods which can be utilized in an exploratory study. These include:

> (1) A review of the related social science and other pertinent literature; (2) a survey of people who have had practical experience with the problem to be studied; and (3) an analysis of "insight-stimulating" examples.

This study utilized the first two of these methods. A review of literature related to the effectiveness of paraprofessionals suggested a number of possible areas of concern in supervision. A review of literature in the field of supervision yielded some possible areas of interest for the study of supervision of paraprofessionals. But, in each of these areas of the literature the findings were not easily applied to the specific question of effectiveness in the supervision of paraprofessionals in an educational program.

Experience in this study suggests that one of the most difficult aspects of an exploratory study is the determination of the level of abstraction which will have the maximum utility for the question involved and the resources available for the study. To start with no conceptual base is to severely limit the basis for asking questions. To attempt to close the conceptual frame too tightly is to risk not asking the most important questions. In this study the focus on effectiveness suggested that the conceptual basis of the study be left broad enough to include a variety of variables. It needed to take into account the psychological, social, economic, and other factors which would influence the response an employee would make to a supervisory behavior.

The element of the question which dealt with how supervision of paraprofessionals differed from the supervision of other workers suggested some elements of the study of comparative organizations as a conceptual basis. The work of Etzioni (1961), Perrow (1970), and others was of interest at this stage, but it did not lend itself to the specific question of supervisory effectiveness.

To cope with the problem of a conceptual basis of the study, it was decided to organize the literature review around three dimensions of the supervisor's work. These dimensions were found in common to the work of Katz (1955), and Bishop (1969). They include; (1) the motivational dimension, dealing with the employee's willingness to contribute to the achievement of organizational goals; (2) the technical dimension, dealing with the ability to utilize the relevant technology; and (3) the conceptual dimension, which deals with the ability to see the organization as a whole and relate elements to each other and to the achievement of organizational objectives. These three dimensions were attractive because they were broad enough to include the total work of the supervisor. They also appeared to lend themselves to the more specific kinds of conceptualization which were of interest to the study.

The literature review was organized around the three dimensions to serve as the initial conceptual basis of the study. This broad presentation of the literature led to the formulation of fifteen research questions for the study. These questions were not tightly integrated but represented areas of interest.

These research questions served as a basis for the development of an experience survey. In this survey an attempt was made to draw on the experiences of persons who had worked with the supervision of paraprofessionals under field conditions. These persons would be expected to have accumulated knowledge about what works and does not work in supervising paraprofessionals. The purpose of this phase of the study was to collect data from these experienced persons and attempt to consolidate it in terms of the literature. This experience survey in combination with the literature should serve as the basis for reconceptualizing the question and formulating hypotheses for future testing.

The interview guide was selected as the approach to data collection. The research questions served as the basis for the formulation of ideas to be covered by the interviewer. Unlike the interview schedule, the interview guide provides the interviewer flexibility in the wording of questions and allows freedom to follow the line of questioning which is suggested by the responses of an individual. It allows rephrasing when the respondent did not understand the initial question, and it lends itself to a conversational style of interviewing. This allows the respondent to report in language which is comfortable and familiar.

In the development of the interview guide, the research questions were organized in an order which would appear to lend itself to a conversational approach to the discussion of the topic. A series of inquiries or points to be covered relative to each research question was then prepared. The organization and wording of the guide was then pretested and refined.

Seltiz et. al. suggest two criteria for the selection of a sample in an experience survey. These are knowledgability and articulateness. The respondent must have had experience with the phenomena to be studied, and he must be able to articulate his knowledge about these phenomena. Thus, Seltiz et. al. (1959) suggest that one of the best methods for the selection of a sample would be to ask knowledgable administrators to identify individuals who were both knowledgable and articulate. It must be remembered that the search is not for an objective description of what supervisory behaviors take place but for insight into how supervisory behaviors affect the behavior of paraprofessionals. Using these criteria, administrators in the EFNEP were approached and asked to identify supervisors who were knowledgable and articulate. Six supervisors were selected to be interviewed. Each supervisor was ask to identify two technicians who were knowledgable and articulate. Twelve technicians were thus selected for interviews. While this sample may appear to be small, it proved quite productive for the purpose of exploration and conceptual development.

The interviewer took written notes during the interviews, and each interview was tape recorded. Interviews with supervisors lasted about two hours each and interviews with paraprofessionals lasted about one hour each.

The sequential steps in the data analysis included a summary of the written notes, listening to the tapes, a written conceptualization of findings, a review of the written notes while listening to the tapes, a new summary based on ideas formulated in the conceptualization, and a reconceptualization of the findings. The findings and resultant conceptualizations were then used as a basis for the formulation of hypotheses and suggestions for the future study of the question of supervision in the EFNEP.

Much of the analysis consisted in reconceptualization of the questions raised in the literature in terms of the findings indicated in the data. In some instances the data suggested new areas of questioning which are specific to supervision of paraprofessionals. The following summary of conceptualizations which resulted from the study is offered to illustrate the utility of this exploratory approach.

(1) Period of instability and crisis. When they were employed, most of the paraprofessionals in the EFNEP were not prepared for the work they would do. They were not technically trained, nor were they emotionally prepared for the experiences they encountered. They reported anxiety concerning their ability to carry out tasks, and they reported emotional involvements with clients' problems which interfered with their own functioning. The supervisor's first task appeared to be that of achieving some sort of stability in the situation. The technicians had to be trained in the fundamental skills needed, and they had to learn to differentiate those problems which could be dealt with in an educational program from those which had to be referred or left alone.

(2) Reversal of motivational problems. Much of the literature on supervision deals with the motivational problems caused by uninteresting work. A reversal of this problem appeared to exist for some supervisors of paraprofessionals in the EFNEP. The work environment appeared to be very stimulating, and technicians were deeply involved in their work. Technicians appeared to have a tendency to become so involved that it interfered with their effectiveness.

(3) The data suggest that the conceptual content of the supervisor's work is higher in this decentralized program than the literature suggests is usual for first line supervisors. The supervisor appeared to have extensive responsibilities for developing a plan to utilize the resources available. She was responsible for selection of the individuals for employment and designing a training program to prepare them for the work to be done. The supervisor prepared the plan for educational intervention,

evaluated progress and adjusted plans in an effort to develop the most effective combination of resources for the accomplishment of the educational objective.

The study was not limited to the survey of independent variables which might influence supervisory effectiveness. It also dealt with the question of how supervisors and paraprofessionals defined effectiveness and productivity. Methods of data collection were explored in the practical context of persons who had experience observing and interviewing clients.

An unanticipated finding was the discovery of a number of conditioning variables which would appear to have a great impact on comparability of data between supervisors in different political and geographical areas. These included cultural variables which appear to affect how clients will respond to different kinds of educational intervention, economic variables which affect what clients have to work with to change their diet, and policy variables which operate independent of educational programs. The magnitude of these kinds of variables led to a serious question of the utility of educational outcomes as a measure of supervisory effectiveness when comparing work in different counties or cities. As a result of these findings, it was suggested that the question of what supervisory behaviors lead to increased educational outcomes be deferred in favor of more limited questions. Two such questions include(1) what kinds of paraprofessional behaviors lead to desired educational outcomes in specific situations, and(2)what kinds of supervisory behaviors lead to desired paraprofessional behaviors.

Throughout this study the emphasis was on the formulation of questions rather than on the determination of conclusions about the effectiveness of supervisory behaviors. As a practical matter, however, it should also be noted that the exploratory methodology utilized in this study can also serve as a basis for a more informed approach to supervisory practices. The combination of an intensive review of literature and a survey of persons who have practical experience working with a phenomenon should provide a better basis for understanding that phenomenon than existed without such a study. While this method does not provide the measurement required for hypothesis testing, it does provide a level of data greater than is otherwise available for decision making on many applied questions confronted by educational administrators.

The relative economy of the experience survey, as used in this study, suggests it as an approach to many of the applied questions confronted in the operation of an organization. This systematic survey of the experiences of organization members, when integrated with a conceptual development of the problems involved, could be utilized as a very important feed-back mechanism for an organization.

The broad scope of the question of supervisory effectiveness, the lack of previous research on the supervision of paraprofessionals, and the resources available led to the selection of an exploratory methodology for the study of supervision of paraprofessionals in the EFNEP. A combination of a review of literature and an experience survey were used to explore the question and formulate hypotheses for future testing. The study was productive in isolating certain variables which showed the greatest promise for future study. It also yielded information which would be useful in the design of future studies.

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Theory and Research in Adult Education

Ralph Schillace
Center for Research on
Learning and Teaching
The University of Michigan

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Scientific research is the creation of knowledge. At its best it describes a reality that we can agree upon and that we can test according to rather specific and stringent criteria. It is the best means that Western man has devised for understanding--that is, predicting and controlling--his world. Scientific research tells us something about our world that we didn't know before we did the work.

Scientific research is also a strategy for problem solving. It has a methodological component which is composed of sets of techniques for inventing questions and answers and for testing the usefulness of both. As many have said before, more than half of the job of good problem solving and scientific research is to identify the problems or the questions as well as the answers.

CREATIVITY AND PROBLEM SOLVING IN EDUCATIONAL RESEARCH

We don't seem to apply very well the processes of creativity, problem solving, and scientific research to the problems in education in general and adult education in specific. As educational researchers we seem very concerned about being scientific. A common mistake we seem to make in our striving for this lofty goal is to think of the scientist as being an extremely rigorous practitioner of a few well defined skills, including experimentation, data collection and analysis, and the public report of the process and findings of his work. I think we forget much too easily that a very important part of the scientist's role is to be a free, open, responding, receptive artist. Both in the approach he takes to finding and solving problems and to the aesthetic kick that he gets from the products he produces in the laboratory, in the field, or in the armchair. At the risk of being too bold about it, I would like to suggest that on some very important points, good science is good art. One of the points on which science and art agree is the extent to which both work from general abstractions about the phenomena of interest in a given part of the world. This abstract generality--an idea, if you will--is a seminal theory. Theory spawns creativity for both the scientist and the artist.

I think we can show how a theory may be used to facilitate research in adult education. Before we do that, let's consider for a moment some recent work in the area of innovation in higher education and some work in the area of creativity in general. For the last eight years the Big Ten universities and the University of Chicago have participated in a consortium concerned with identifying and sharing instructional innovation. Stanford C. Ericksen (Center for Research on Learning and Teaching at the University of Michigan) has participated with this group and acted as editor for a publication of abstracts of the innovations found in the participating schools. Professor Ericksen has recently reviewed 241 abstracts collected over the last eight years and has attempted to characterize trends and patterns associated with these innovations. The findings would probably confirm some of our first expectations. Innovations occurred at all levels of instruction, from undergraduate to graduate, and in all areas of curriculum. A great percentage of innovations involved the application of technological aids to instruction or some instructional rearrangements generally tending toward individualizing instruction. In sum, the innovations reported tended to be the application of a technological aid to the problem of providing information to a greater number of students or an attempt to rearrange the learning situations so that the amount of learning required of the student at any point in time in a given system of instruction could be better controlled to meet the needs of the student. Most of the innovations seemed to be trial and error responses to perceived problems. They are not high conceptualized procedures developed on a basis of a consistent theory of how people learn or how they are to be instructed.

If we think of these reported innovations as the products of some creative process responding to systems of instruction in higher education and adult education, it would seem that the results of the process are responses of limited effect on short-range problems. Unless someone can suggest that instruction in higher education has changed fundamentally in the last decade, then such a critique of at least one sample of innovation seems justified. Recent summaries of research and innovation in higher education (see Travers, 1973) support this general conclusion.

Most products of innovation in college teaching seem to be the result of an incomplete process of creativity relying heavily on a cognitively primitive trial and error approach. Implicit, unarticulated, and incomplete models of how man learns and is to be instructed are behind the products produced. The approach is contrary to our knowledge which suggests that problem solving should proceed through stages of: (1) abundant, cognitive input including theoretical perspectives; (2) application of relevant and available technological and performance skills in the problem field; (3) intense motivation by the worker to bring materials and tools together on the problem; and finally (4) cognitive incubation during which the problem solver withdraws conscious effort to allow spontaneous processes to work on the problem. In many instances, potential solutions are generated with little attention from the worker after this period of work.

The procedures we have used to solve our problems in teaching in higher education do not seem consistent with this model of creativity. The application of a technological aid to an ongoing system of instruction (a frequent innovation) often results in the misuse of the medium and the assumption that we know what college teaching and adult learning are all about, and all we have to do is figure out how to do it on a TV screen or on a computer terminal. A second frequent response we have is precipitated by specific critical incidents or crises. It involves identifying a mispractice or other problem and then finding in some trial-and-error fashion a specific solution to the situation. Usually we explain after the fact why our innovation is an adequate solution. In effect, we rationalize what we have developed. A good example of this is the creation of the multiple-choice examination, which was obviously a response to the need to have an economic, apparently objective testing instrument applicable to a large number of students. But the creation has no conceptual base suggesting that it is an adequate way to aid the student in retrieving and displaying learning that has occurred.

Almost every professional group has responded similarly to the pressures for change in problem solving. When confronted with clients and with problems which are large and complicated in affecting human welfare, rapid and practical solutions are sought and rewarded. But any professional group that continues to proceed in this fashion and only in this fashion will be prone to the fads and the embarrassments of short-term and unpredictable solutions. Innovations and changes should emanate from well articulated, conceptual positions. Thoughtful, theoretical positions on how people learn and how they should be instructed and the testing of these positions by meaningful, scientific procedures should produce important information in higher education in general and in adult education in specific. What I am saying, I hope, is the following:

(1) Let's not do "dumb empirical research" or just plain empirical research in adult education, because it has failed elsewhere in the social sciences so embarrassingly;

(2) Let's generate testable theories about the exciting area of adult and lifetime learning and seize the opportunity at hand to throw some very important light on this long neglected human experience;

(3) Let's stay in touch with our insights and feelings and with each other as problem solvers, researchers, innovators, agents of change in this finally-beginning-to-grow area and realize that while we may aspire to lofty goals of science, we may have very few of the means to generate and solve the problems of adult learning from the procedures now available to us from the physical and social sciences.

RIGOR, RELEVANCE, SCIENCE

I would like to spend a moment on another point about something else that, in addition to lack of theory, gets in the way of our creativity--and that is, a value system that places primary emphasis on what is often called rigor. Scientific researchers aspire to rigor in their work and educational researchers concerned so very much about a scientific solution to their problems are concerned with rigor even more so than the ordinary. I would guess that the true meaning of rigor is that one has a nonequivocal answer to one's problems and has a high degree of precision and control over the phenomenon he is studying. It would be difficult to argue against such a value, but I would like to suggest that the emphasis on the value of rigor might be out of place in our work in research in adult education and in education in general and probably in most of the social sciences.

I remember confronting the problem of rigor in scientific research as a graduate student, when I was introduced to a paper published in 1962 in the American Scientist by one of my professors, who was teaching me clinical psychology at the time. The paper is entitled "The Behavioral Psychologist at a Choice Point" (Marks and Seeman, 1962). It is the story of a white rat who wanted to become a psychologist and who was admitted to graduate study in that field. Herman noted quickly as a graduate student that some research was thought to be more important or more prestigious than some other kinds of research within the area of psychology. And it became clear to him that one of the factors determining the prestige value of research was its rigor. But it also became very clear to Herman that rigor was relative and that if it were the only criterion determining what problems were to be worked on, then everyone would work on physics and no one would work on education. Rigor was not the only consideration although it often seemed to be the tail that wagged the dog or the rat, if you like.

Further investigation led Herman to discover that interest or relevance was another important factor. Choices for research problems by researchers were made on the basis of the interest or relevance or importance of the problem as well as the rigor with which the problem could be studied. Herman wanted so much to be a scientist, but not a scientist studying molecules or atoms or machines on inclined planes, but a scientist studying the behavior of humans. And the paradox and the dilemma that confronted Herman was the fact that there seemed to be an inverse relationship between meaningful problems and the amount of rigor with which the problem could be studied. Herman felt that others had made implicit choices as they confronted the dilemma that he now perceived and in most instances had chosen to study the problem that could be attacked most rigorously rather than to study the problem that was the most interesting or most important or most relevant. For the psychologist studying learning it meant studying the learning of nonsense syllables in the laboratory rather than the study of middle-aged adults in the real world. As adult education researchers become more and more concerned about identifying and solving problems in this burgeoning field, it seems that they must confront that choice point and decide how to strike a balance between the relevance, importance and interest of the problems they attack and the rigor they will be allowed to apply to that problem. Incidentally, the conclusion that rigor and importance are inversely related was professionally fatal for Herman in that he was asked to leave graduate school. So, take my warning if you too choose to contradict the prevailing value system in scientific research.

It wasn't long after I met Herman and worked that dilemma out for myself that it became clear to me that those persons making significant breakthroughs in the social sciences, people making great contributions toward research in understanding human behavior, were those persons who not only challenged the traditional value of rigor in scientific research as applied to the types of problems studied, but also challenged the methods used in attacking the new problems selected. The Harvard psychologist, B. F. Skinner, who has had so much influence on how we think about human performance and learning performed experiments on single subjects and refused to perform complex, if any, statistical analyses at a time when such work in the science of learning and experimental psychology was heretical. Similarly, the Swiss philosopher and developmentalist, Jean Piaget, studied his own children in very informal but intense interview situations to derive a very complex series of hypotheses about cognitive development and cognitive functioning. Where others were studying children in groups applying rigorous controls on narrow pieces of behavior and trying to flush out statistically significant but otherwise not very interesting differences between groups, Piaget was poking into the universal mechanisms of the mind in his own kitchen. Piaget's research is an outstanding example of work which resulted in the production of heuristic hypotheses and a vast and broad theoretical network to be researched and applied to educational problems for a long time to come. He helped us to think of the problems of cognitive development and gave us the means by which we might attempt to find answers to these problems. There are other examples of this style of high-risk but incredibly insightful research, but let these two I have mentioned serve as landmarks for the adult education researcher.

KINDS OF THEORIES

To this point I hope I have suggested the importance of a creative approach and a theoretical perspective to scientific research in adult education. I hope also that I have offered a useful caveat to ward off the demon rigor as we attack exciting problems in human learning and development. For the remainder of my paper I would like to concentrate on some applications of theory to research. There are at least two sources of theoretical input useful for the practitioner or researcher in adult education interested in proposing and testing innovations. The first of these consists of the human behavior theories in the social sciences. The second is much less familiar and constitutes the source of cognitive tools called theories of instruction.

A useful example of the first category is reinforcement theory, resulting from the work of B. F. Skinner at Harvard. Reinforcement theory suggests that feedback to the learner and consequences after overt performance are important factors in producing learning. This position suggests that the learner must perform in order to learn and that his performances must be contingent with what he perceives to be appropriate payoffs. The theory predicts that little generalized and transferred learning will occur when the learner is required merely to sit and listen to the presentation of information. This learning theory is also very concerned with individual differences among learners and suggests that arrangements be made in instructional systems so that each learner has the opportunity to respond at his own rate and to receive those reinforcers that are meaningful to him. The lecture and discussion group are thought to be relatively ineffective methods of instruction, according to this theoretical stance.

An alternative to the lecture and group discussion is offered as a result of the work of Fred S. Keller's system of personalized instruction and mastery learning. Taking the fundamental suggestions of reinforcement theory, Professor Keller and his associates suggested that learning might proceed much more effectively if individuals were allowed to proceed at their own rate through small units of material. Clearly specified and written objectives are shared with the learner and with his own personal tutor. Lectures are minimized as a mode of presenting information to the learner and are instead used to motivate students to learn the content presented to him through other means. Tutors that work with learners in a Keller-designed course are usually undergraduate students who have previously mastered the course and who are supervised by the instructor and guided by sufficient written information. Mastery learning is achieved by allowing the student to take tests on given units of material until he shows that he has attained the objectives set for him. This is where the individualization (with respect to rate of learning) occurs, in that a student is allowed to take as much time or as little time as he needs to master a given unit of material. He is given continuous feedback about his performance through both the written materials and the individual contact from his tutor. He apparently receives substantial amounts of reinforcement from observing how closely he achieves the objectives set for him and the social recognition that results from such achievement.

Reinforcement theory may be applied in other ways than through the personalized instructional system developed by Keller and his associates. Whereas there is no isomorphic correspondence between the theory and the system of instruction developed, it is very clear that the Keller Plan procedures are consistent with reinforcement theory.

Reinforcement theory has suggested a course-wide procedure for producing learning. Other theories from the social sciences may not specify a course-wide instructional innovation or change, but may instead suggest smaller procedural innovations within a more conventional format. Attribution theory, as described by Harold Kelly, may be an example of a new theory that can make specific recommendations about a set of behaviors which apply across various instructional designs. The theory is concerned with an individual's determination of the reasons and responsibility for his behavior. One of the major theorems is concerned with the extent to which an individual may disavow his own responsibility for a given piece of troublesome behavior. If an individual can attribute the reason for his behavior to some external force, he is not likely to take responsibility for that behavior and under some circumstances will reject the behavior at the earliest opportunity. The theory needs much more substantiation from social science research, but if the hypotheses that it leads us to generate in our practices in higher education are supported, this theoretical position suggests that some of our coercive and directive procedures in teaching produce exactly the opposite effects from what the typical professor desires. Attribution theory may lead us to search out procedures for producing learning which allow the learner to make more choices and to take more responsibility for what he learns. Such a position does not suggest that we merely discard all structure and regulations that we now have, but instead that we adjust the instructional system in such a way that our interpersonal relationships allow for meaningful decision-making for all of the participants. How accountable a student is in a given situation and how much choice he has about what and how he will learn are important factors to be considered in whatever innovations or changes we contemplate. How these factors interact with teaching procedures may be a question attribution theory can help us answer. Raising these issues, as attribution theory leads us to do, is an example of how theory can help us find questions as well as answers.

Theories of instruction are less easy to identify than the behavior theories of the social sciences. The psychologist Jerome Bruner is responsible for recent interest in the notion of a theory of instruction. He has pointed out that while theories of learning describe processes of learning (probably intra-individual) a theory of instruction could prescribe the means by which a given piece of learning could be achieved. That is, a theory of instruction would tell us how to proceed if we wanted to attain a given instructional objective. When we use theories of behavior, we tend to derive a number of practices that a specific theory suggests. As Bruner conceptualized it, a theory of instruction would be a much more explicit set of rules which would determine the limits within which one would have to operate to produce learning in humans. Some macro-theories of instruction have been attempted and at the present time comprise general statements of the factors which are important in producing various learning objectives and a specification of the extent to which those factors are prevalent in various instructional designs. A consideration of a variety of instructional designs differing with respect to the roles of the participants and the effective factors prevalent and related to various learning outcomes has one great advantage for the practitioner attempting to produce innovation and change. It aids in overcoming the narrow thinking usually associated with what constitutes college teaching. College teaching becomes much more than just one person presenting information to another person or to a group and instead comes to mean a vast array of behaviors and procedures differentially associated with and useful for an equally wide array of objectives.

TOWARD A THEORY OF INSTRUCTION

We need a theory of instruction to suggest to us alternative strategies which are available to us as researchers and practitioners attempting to achieve a variety of learning objectives. Such a theory, I believe, as Bruner (1966) suggested, will indicate and prescribe for us the conditions under which we might expect the learning we desire to occur. Such a theory made explicit and designed to overcome the implicit assumptions currently victimizing us, will provide a framework in which teaching and learning effectiveness may be evaluated as a function of a number of variables other than the conditions of the lecture format. As long as we suggest changes in our practice within the context of what we consider to be "standard" college teaching, I believe little progress will be made in changing the fundamental strategies we have and use.

A student educational reformist[1] once suggested that promoting educational change in institutions of higher education, if done in a piecemeal fashion, is very similar to poking a marshmallow--no matter how hard one pokes ultimately the marshmallow returns to its original shape. Anticipating such problems in researching changing instructional practice, especially in adult education, it has been my intention in devising the scheme I would like to present to you now, to work at somewhat of a macro level. I am interested in changing and evaluating educational practice and providing the means for making decisions in educational change at at least the course-wide level. To change or suggest sub-procedures, methods of techniques within the traditional format of the lecture tends to perpetuate the position that college teaching is some uni-dimension and homogeneous enterprise and has some conventional and traditional format which must be maintained.

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[1] Ira Magaziner, Brown University student presenting at Oakland University, 1969.

For this reason I would like to suggest that we consider the basic units of our educational practice to be course-wide designs.

An instructional design may be considered any course-wide system of procedures aimed at producing learning. Designs are to be ultimately defined and differ with respect to the specific roles of the participants. In the instructional situation the roles of the student and teacher define and characterize one design and differentiate it from another. In Table 1, six relatively common designs are listed. As you can see from the list it is not my intention to ignore or discredit entirely the lecture as a legitimate instructional design. It is, however, considered to be only one of a set of designs available to the instructor. I would maintain that the role of the teacher and the role of the students is very different in a design called the Lecture versus one called Small Group Discussion or one called the Oxford Tutorial. In Table 2 in a very brief fashion I've tried to characterize the roles of instructor and student and to suggest that they are different per instructional arrangement. In the Lecture situation the instructor or professor plays a very active role of presenter of information, speaker and of impersonal grader of the students. On the other hand, the student plays a much less active role, must be quite adept at listening and encoding information in the audial mode. By contrast, in the Keller Plan situation, the instructor may not lecture at all and instead finds himself in the position of designing materials to carry the information-presentation load, into being somewhat of a personnel director in supervising proctors and assistants who work on an individual basis with students who are active problem-solvers and explorers working their way through units of material with specified objectives and with some options in how to get to these objectives. Finally, on the point that designs are defined by different roles for participants, let me suggest to you that although we think of independent study or some tutorial work we may do as equivalent to an Oxford Tutorial design, I would submit that the Oxford Tutorial involves a very definite set of ground rules, skills and responsibilities for the don and the student and is in many respects quite different from what the American system of independent study would suggest. I would also suggest that the behaviors defining the roles of the participants in most designs are rather complex and that the effectiveness of the participants would be greatly enhanced if they did, in fact, first acquire the habits and behaviors necessary to excel in the instructional design in which they operate. Something as apparently innane and innocuous as conducting a small group discussion is an horrendously complex and involved task which most of us will attempt with little or no training in our guise as college teachers. It is furthermore quite a different kettle of fish to conduct effectively a small group discussion design, rather than a lecture although I'm sure you have observed as I have as I walked through the halls of my institution, my astute colleagues lecturing to one or two or five students in what was originally toured as a class to be conducted on the small group discussion format.

The six designs I have identified comprise by no means an exhaustive list. I wish only to suggest to you that these alternative strategies for instructional practice are available to us and that they do differ in very meaningful ways in terms of what the participants do in the roles they hold. I submit to you that more of the variance in teacher effectiveness is accounted for by the design used than by the extent to which a given teacher can expertly apply a design.

The various designs we have available to us are more or less effective depending on the objectives we have for the learning system we are operating. In Table 3 I have listed some (once again not an exhaustive list) of the objectives or desired outcomes we may have for college and adult education courses. I am in full agreement with those who maintain that the teacher must specify as concretely as possible in behavioral terms exactly what he hopes to achieve in a given course of instruction. I have identified the desired outcomes in Table 3 only in order to locate various areas of achievement and not to specify in any concrete way exactly what is to be achieved. A fundamental thesis in my scheme is that there is a relationship between the extent to which certain outcomes will be achieved and the design applied in the instructional system. For some desired outcomes, some designs are more effective than others. To apply a single design to all outcomes is, at best, incomplete.

Designs vary in their effectiveness for given desired outcomes because they facilitate learning as a function of different factors intrinsic to them. In Table 4 I have listed once again only some apparently effective factors related to behavioral change and learning in general. Each of these factors can be highly specified, operationally defined and empirically measured and hopefully shown to vary as a function of the instructional design. For most of the factors there is some theoretical rationale or experimental evidence that the concept can account for some behavioral change. For example, the list contains the variable, "the amount of reinforcement available to the learner," as an effective factor producing learning along the lines of some desired outcome. This factor has emerged as effective from the work in Skinnerian psychology, operant conditioning and behavior modification. Also, factor number seven suggests that the amount of opportunity to behave consistently with new attitudes is a conceptually sound way of thinking about attitude change which has emerged from Festinger's Cognitive Dissonance Theory and work in Skinnerian behavior modification. Some other factors such as the amount of choice for the learner and the opportunity for the instructor to profess are less well founded as to their effectiveness in producing change in instructional systems, but have emerged as very interesting hypotheses in this area. It is sufficient for my purposes at this point and also for the purposes of the practitioner and researcher in adult education to consider these factors as possible intervening variables tying together designs which can be used to produce certain desired outcomes. I am interested in the scheme at this point primarily because it is, at least theoretically, testable and relationships between designs available and outcomes desired.

Let me suggest just a few of the possible relationships between desired outcomes and instructional design as a function of amount of the effective factor available across designs. In Figure 1 I have suggested that the instructor seeks the desired outcome of attitude change. We have some evidence to suggest that attitude change may occur as a function of the extent to which the learner behaves in a manner consistent with new attitudes. The desired outcome of attitude change will occur to the extent that the amount of the effective factor is operative in the various designs. Speculation is that the design giving the most opportunity to behave consistently with new attitudes is Simulation and the design with the least amount of the effective factor is the Lecture. The relationship and the hypotheses are testable. The outcome of the designs in terms of the desired outcome of attitude change can be assessed and correlated with the amount of the effective factor. If there is any logic to the hypothetical relationship laid out here, it means for the practitioner that there are various ways to be more or less effective in producing this outcome depending on the designs that he can use in his instructional system. In Figure 2 the order of effectiveness of the various designs, for another desired outcome (proficiency in motor skills) is somewhat different because the presumed effective factor (the amount of reinforced practice) is different. Among the other designs available the Oxford Tutorial and Keller Plan are high on the list of effective designs to produce proficiency in motor skills. A Programmed Reading System (P.R.S.) where the student would work his way through frames in a reading text and a Lecture or Small Group Discussion design are considered generally ineffective in producing this desired outcome. Once again, the relationship is testable and offers options and alternatives to the practitioner and researcher. Of the two relationships that we've looked at so far, the traditional design of Lecture is relatively low in terms of its effectiveness in producing the two desired outcomes suggested. I should suggest at this point that the determination of how much of the factor exists in the given design and how much of a relationship there is between that factor and the desired outcome is a matter of great speculation. This does not trouble me at this time if I can make the point that such speculations and variability and options are available to the practicing instructor as he attempts to achieve effectiveness and to the researcher as he attempts to achieve insight and understanding. For our concerns here today, when we attempt to measure teacher-effectiveness I wish to emphasize the point that the context in which that measurement is taken is crucial, especially as it relates to the design that the instructor is using and the outcomes he is attempting to achieve. In a full report of my scheme at least ten such relationships have been identified and are considered to be at least reasonable and testable. (Figures 3-10 attached are graphs of these remaining relationships.) Of course, for each desired outcome that one can identify if there is any indication of what factor or factors are related to that outcome, such a relationship across designs may be hypothesized.

In order to simplify my scheme, I have proceeded by assuming that only linear relationships exist between factors, designs and outcomes. More complex relationships are more likely and would hopefully be disclosed. Furthermore, for any given instructor or program more than a single outcome is often desired for a given course of study. We most often want to simultaneously achieve many outcomes. For various outcomes it seems reasonable that more than one effective factor is involved in producing a given outcome. So ultimately the scheme we have to devise is one which will coordinate multiple outcomes with multiple effective factors. The theoretical system in which we work will then have at one level, a factors-by-outcomes matrix (slide) where we have determined that certain factors are related to certain outcomes and then secondly a factors-by-designs matrix (slide) in which we show that those effective factors we have identified are distributed differentially across the various designs we have available to us. We then will have to consider an outcomes-by-designs matrix (slide) in which various designs are identified as more or less effective in producing various outcomes. Such a matrix, then, can be used when the instructor finds himself at a choice point in selecting a given course of instruction. (Examples of these matrices are attached.)

I think to this point I have identified a scheme where I can point out to the instructor that he has available to him alternate designs or approaches to use in promoting learning. What is necessary after we have identified the designs is to establish the relationship between the effective factors as they exist in those designs and to show that some are more effective than others in producing various desired outcomes. And then I think we are truly on the verge of a theory of instruction, because at some point it will become apparent that some outcomes or some combinations of desired outcomes cannot be reasonably achieved by the designs available or that some newly formulated effective factor is not clearly operative in the available designs and new procedures qua designs must be invented. For example, if an instructor suggests that this desired outcomes involve some creativity, some development of clinical insight and a high degree of motor skill and we know that the effective factors relating to these outcomes involve reinforcement, practice, modeling and some opportunity to behave consistently with new attitudes, asking our scheme what design combines these factors in some optimal way to produce these outcomes may result in the answer that no such design exists today. And then our task would seem to be to combine these factors in some way so that our role and the role of the student would emerge and be different from roles in other designs and produce for us a new effective strategy of instruction.

I have presented this scheme from the standpoint of the instructor or professor who is empowered to identify desired outcomes and to make choices with respect to instructional design. I realize that this is a one-sided approach to the problem and that desired outcomes can and perhaps should be determined by the student participant at least in conjunction with the instructor. This concern is important, I am sure, if one is attempting to optimize learning. It may be a central issue in the area of adult education.

The scheme I propose here has resulted in some meaningful research activity on my own part. The concepts of students' perceptions of the choice available to them in various instructional arrangements and their perceptions of their accountability in these systems have emerged as relevant factors heretofore insufficiently researched. I have developed scales (attached) hoped to measure choice and accountability and have some preliminary reliability estimates that are very encouraging. It would seem reasonable to hypothesize that these factors vary as a function of instructional designs and are differentially related to various instructional outcomes. If adult learning is different from learning in other groups, such differences may emerge in an interaction with these concepts of choice and accountability.

My scheme is a very general one and was designed to consider the macro issues in higher education and not to emphasize the specific concerns of special areas like adult education. There are unique issues relative to adult education and highly specialized theoretical positions should be developed to stimulate thinking and research in these special problems. Issues such as adult education for mid-life career changes and learning-as-therapy in gerontological programs need to be given the creative-theoretical treatment I have suggested today. Similarly, technological advances which may facilitate life-long learning in a Learning Society must be considered in some conceptual framework that will lead to rich concepts for learner, teacher and researcher.

TABLE I

SOME INSTRUCTIONAL DESIGNS

1. Lecture
2. Small Group Discussion
3. Keller Plan
4. Simulation
5. Programmed Reading System
6. Oxford Tutorial

ROLES IN INSTRUCTIONAL DESIGNS

DESIGN	ROLE	
	INSTRUCTOR	STUDENT
LECTURE	SPEAKER, GRADER.	LISTENER, READER.
S.G. DISCUSS.	COORDINATOR, FACILITATOR.	TALKER, OBSERVER.
KELLER PLAN	MATERIALS, SUPERVISOR, CONSULTANT.	PROBLEM-SOLVER, EXPLORER.
SIMULATION	DESIGNER, ACTOR, OBSERVER.	ACTOR, OBSERVER.
P.R.S.	MATERIALS, CONSULTANT.	READER, FRAME-SOLVER
OXFORD TUT.	ASSIGNER, LISTENER.	READER, SPEAKER.

TABLE [illegible]

SOME DESIRED OUTCOMES

1. Mastery of cognitive content
2. Production of independent learners
3. Facilitation of creativity
4. Production of social activists
5. Mastery of skills of scholarship
6. Transfer of knowledge to practical application
7. The generation of hypothses
8. Self-actualization of student
9. Development of communication skills
10. Attitude and value change
11. Development of motor skills
12. Development of clinical ability
13. Happiness of the instructor
14. Happiness of the student
15. Economic solvency of the course

EFFECTIVE FACTORS IN INSTRUCTIONAL DESIGNS

1. Activity level of the learner
2. Amount of reinforcement available to learner
3. Amount of learner-teacher contact
4. Timing of feedback to learner
5. Accountability of learner
6. Amount of opportunity to practice new responses
7. Amount of opportunity to behave consistent with new attitudes
8. Learner's perception of the probability of success
9. Amount of exposure to new stimuli
10. Instructor,student ratio
11. Personality characteristics of teacher
12. Learning style of student
13. Communications skills of teacher
14. Amount of choice for learner
15. Opportunity for instructor to profess

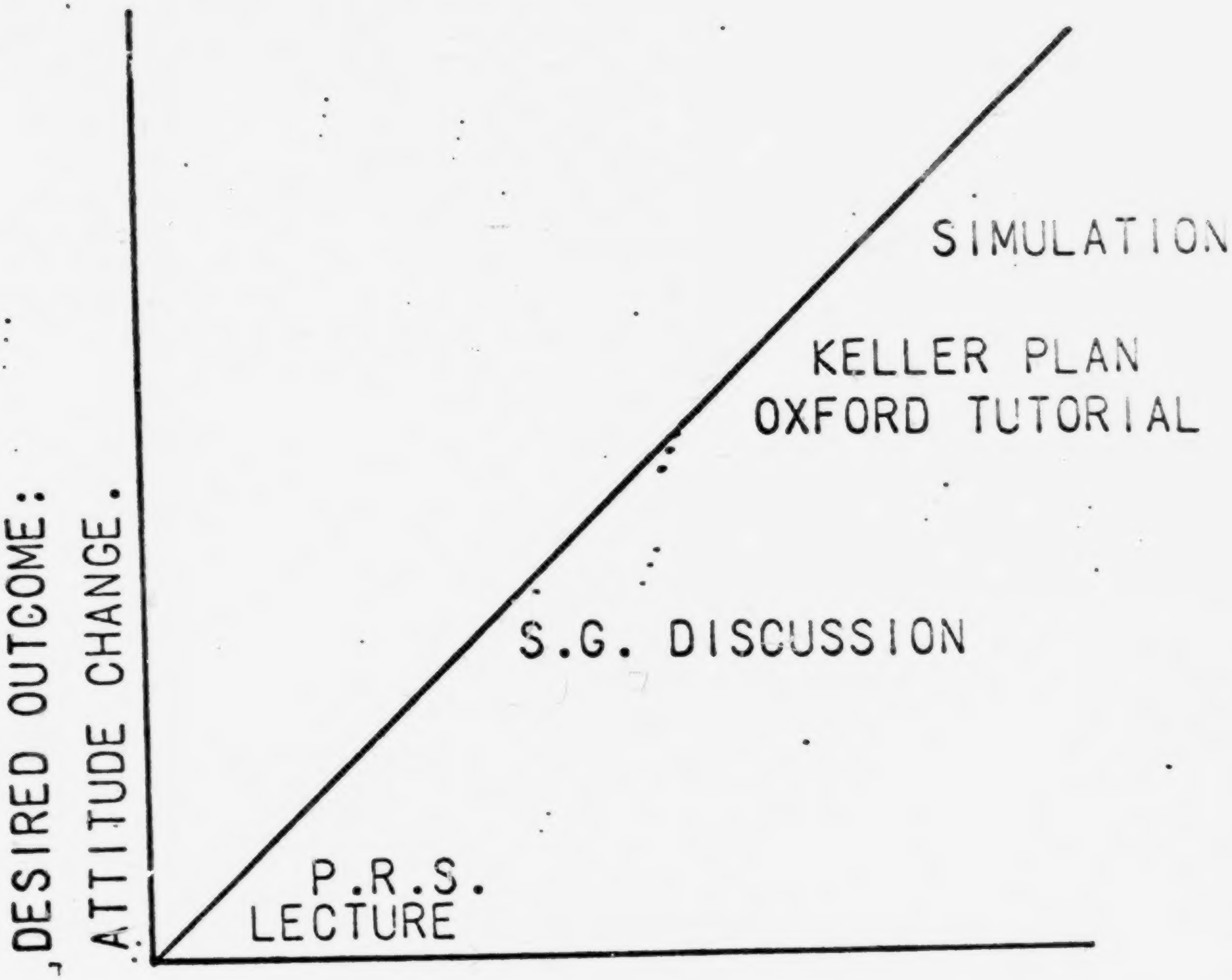

FIG.1. EFFECTIVE FACTOR: AMOUNT OF OPPORTUNITY TO BEHAVE CONSISTENTLY WITH NEW ATTITUDES.

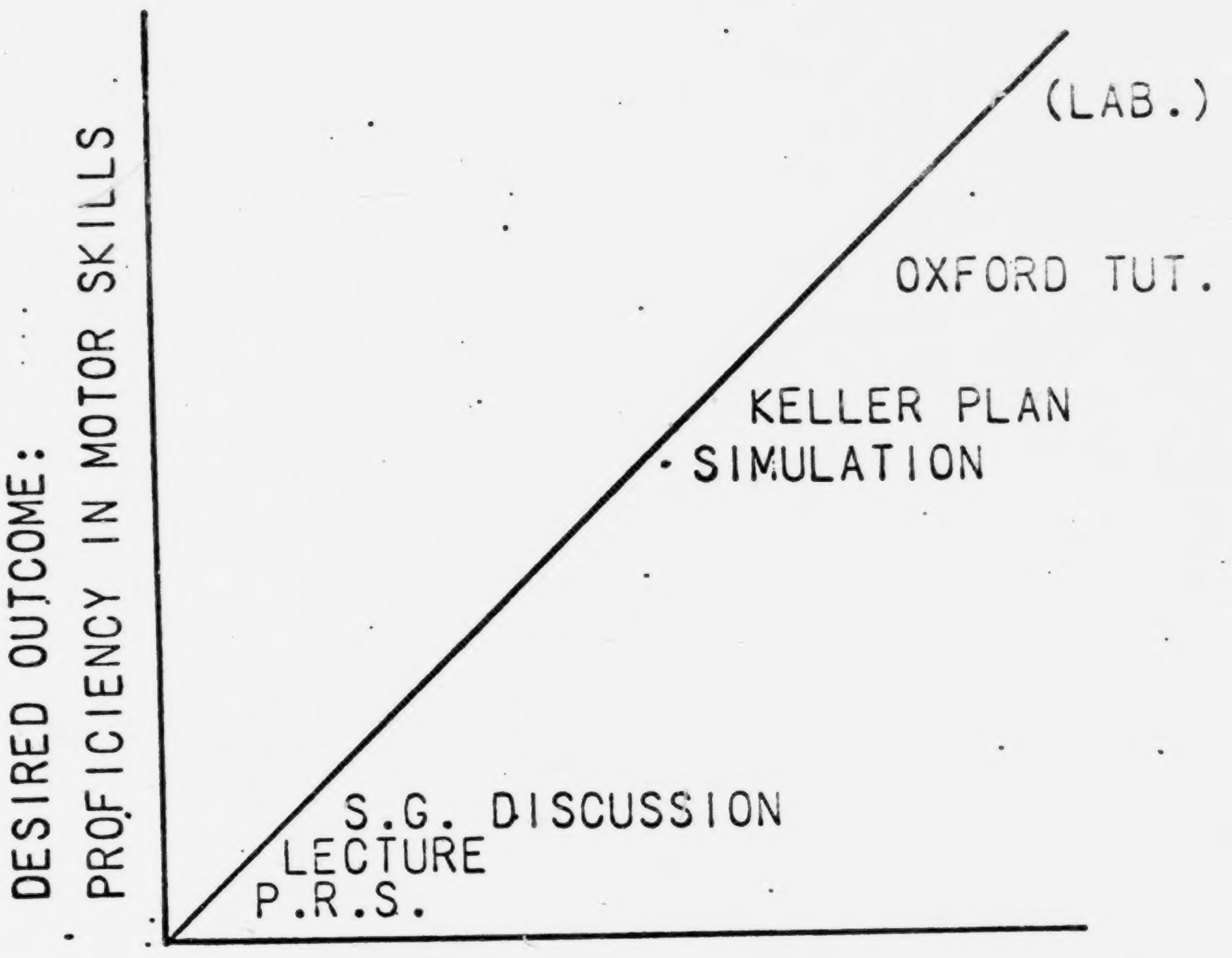

FIG.2. EFFECTIVE FACTOR: AMOUNT OF REINFORCED PRACTICE OF MOTOR SKILLS.

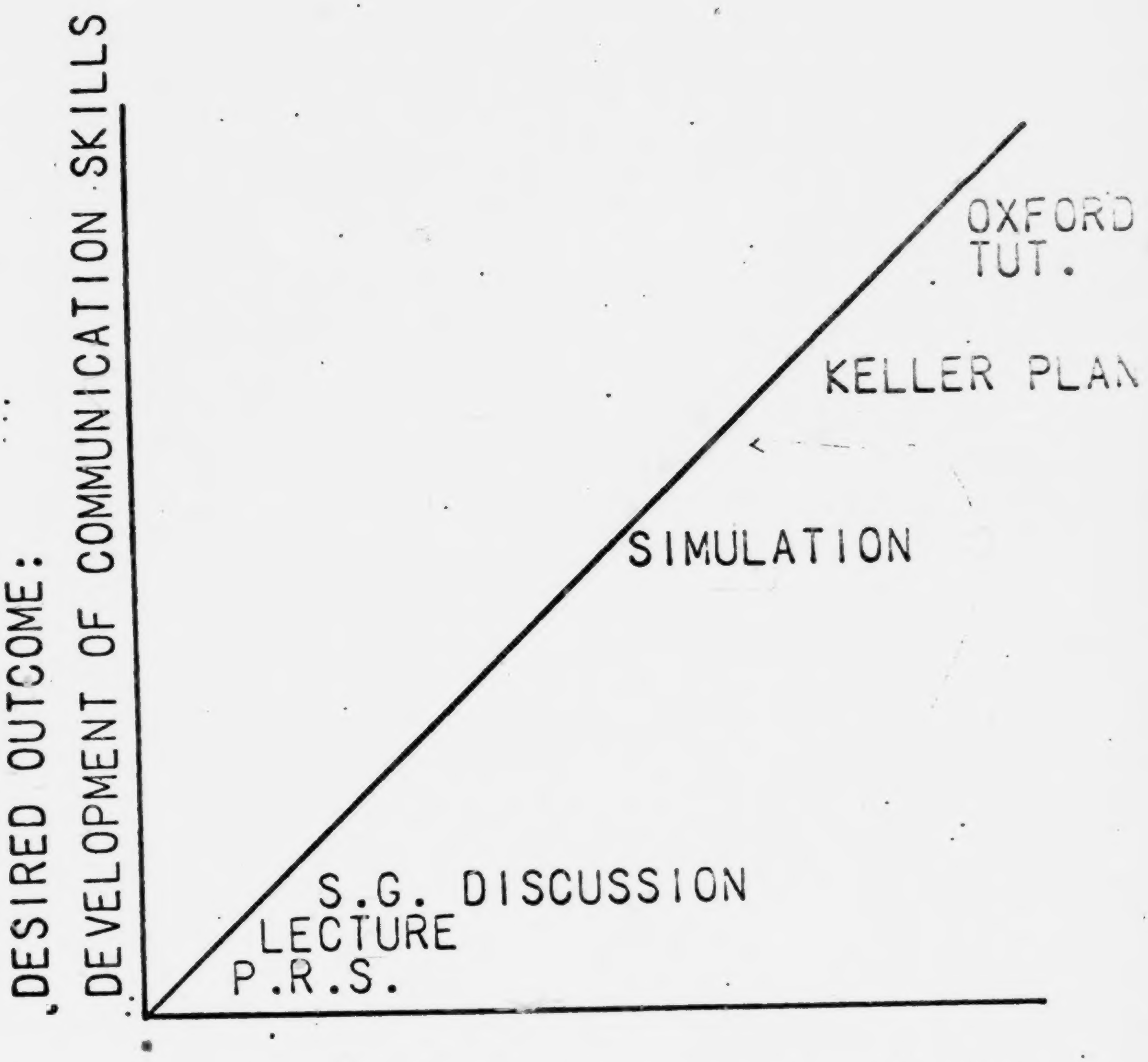

FIG.3. EFFECTIVE FACTOR: AMOUNT OF REINFORCED PRACTICE OF SKILLS.

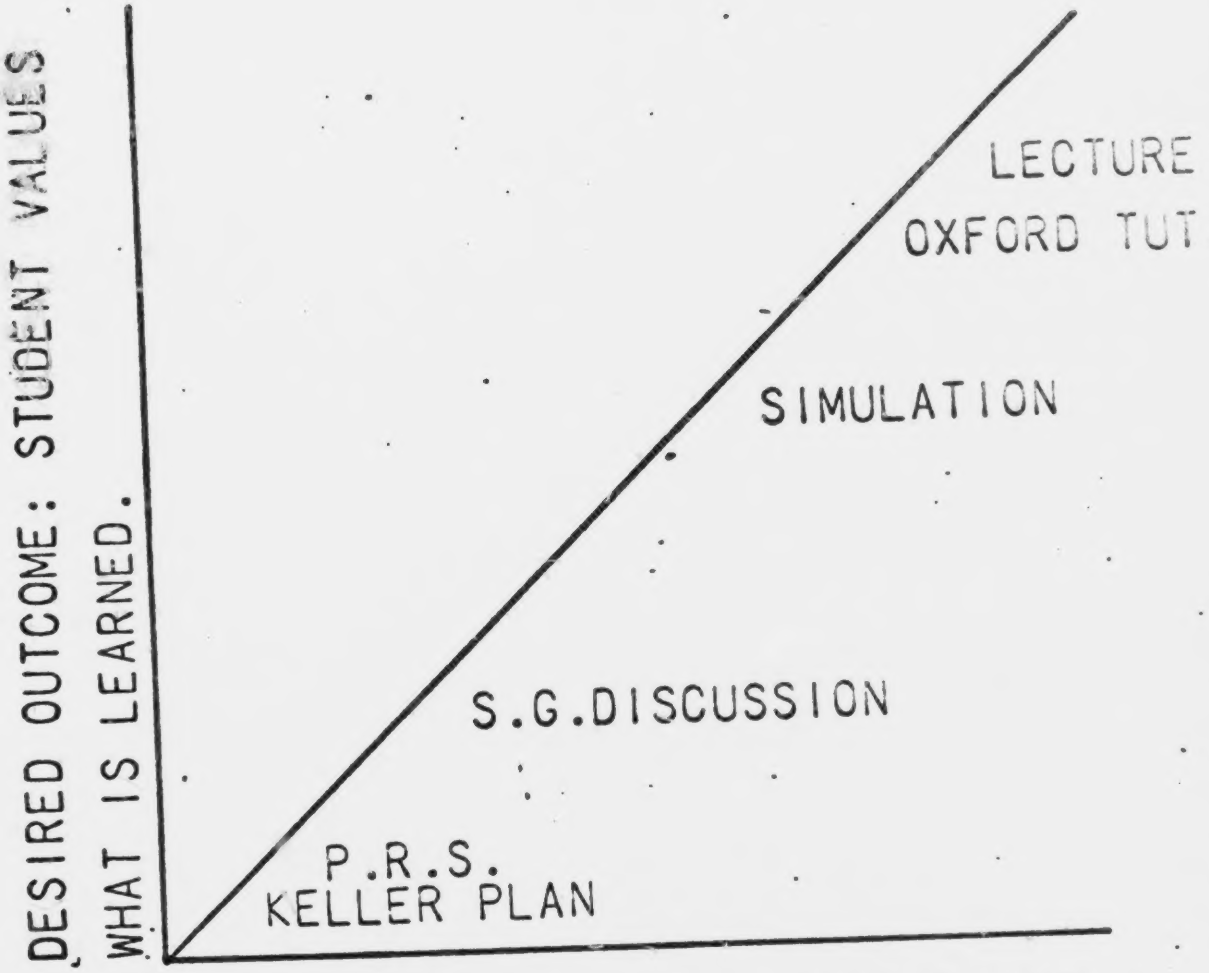

FIG.4. EFFECTIVE FACTOR:EFFORT NEEDED TO EXCELL IN COURSE.

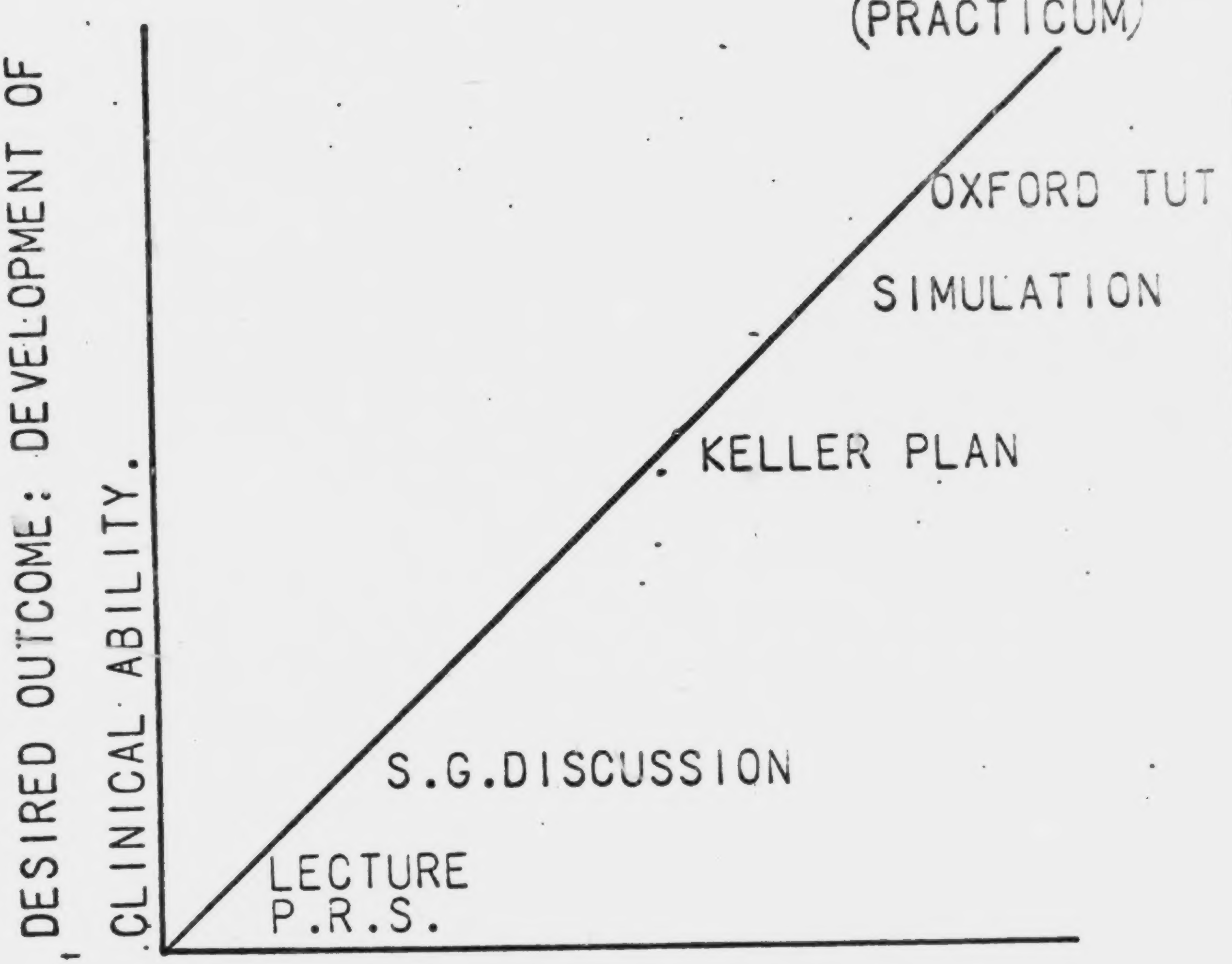

FIG. 5 . EFFECTIVE FACTOR: AMOUNT OF LEARNER-TEACHER CONTACT.

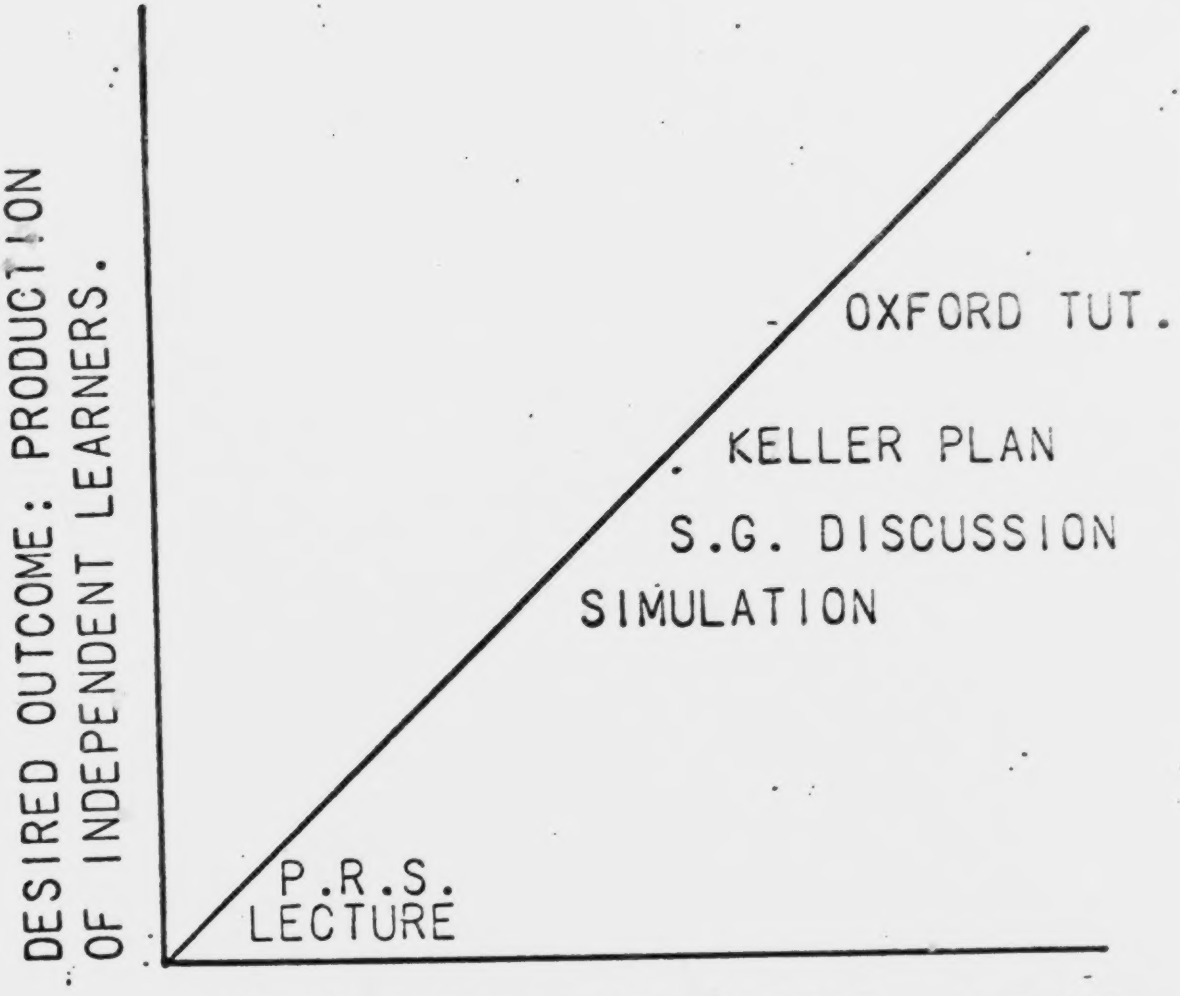

FIG.6 .EFFECTIVE FACTOR: AMOUNT OF CHOICE OF LEARNER.

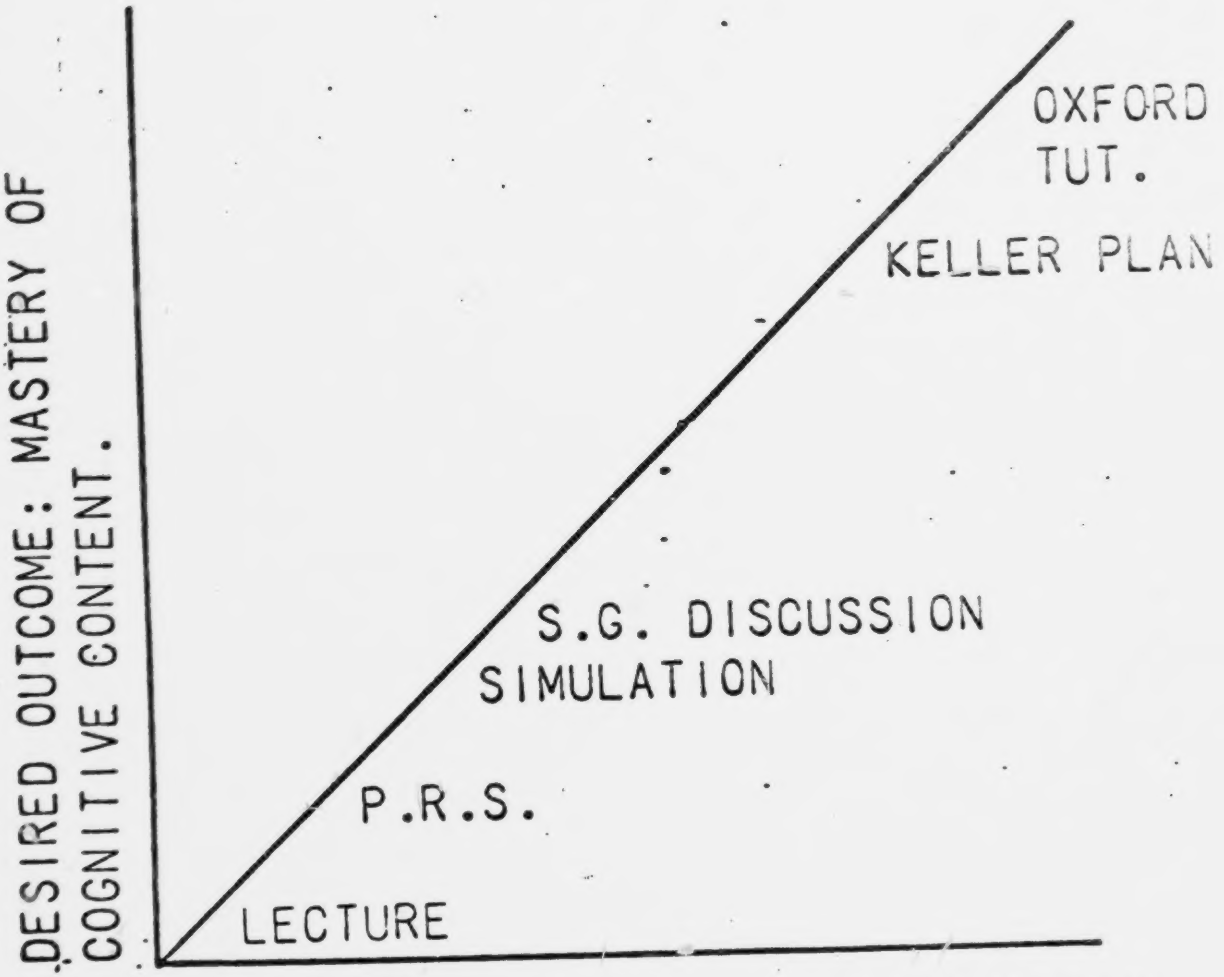

FIG.7 .EFFECTIVE FACTOR:LEARNER'S ACCOUNTABILITY.

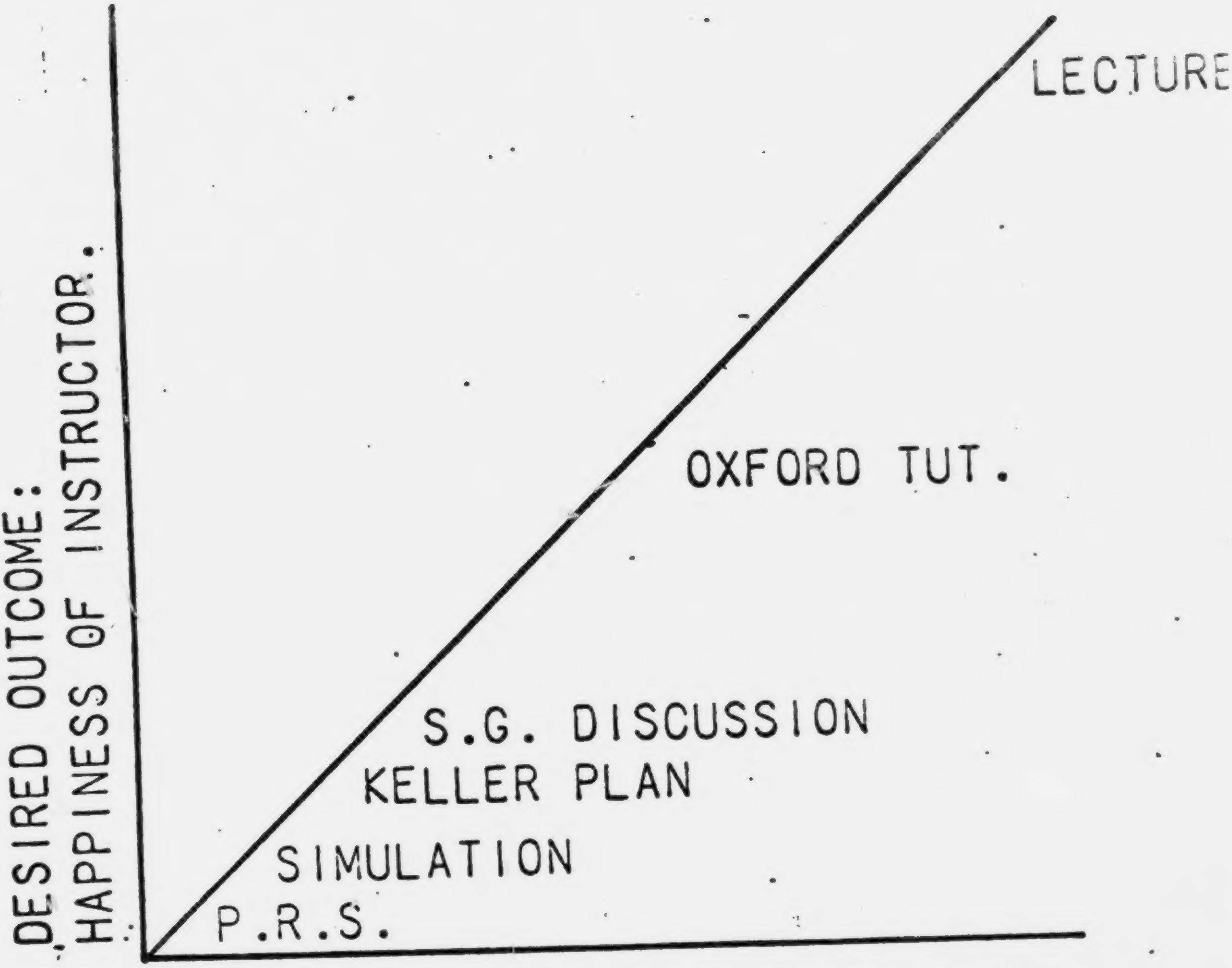

FIG. 8 . EFFECTIVE FACTOR: OPPORTUNITY TO PROFESS.

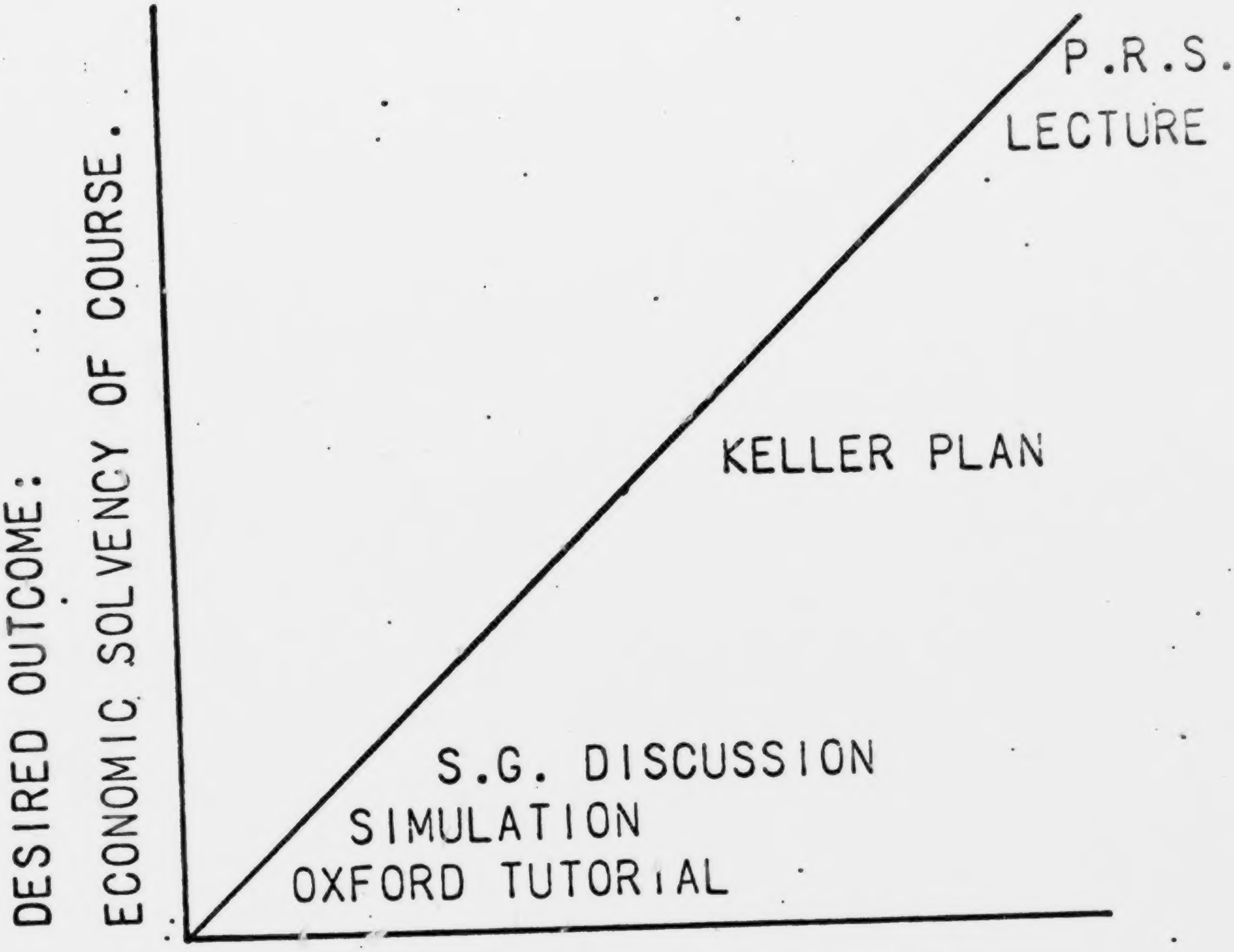

FIG. 9 . EFFECTIVE FACTOR: INSTRUCTOR STUDENT RATIO.

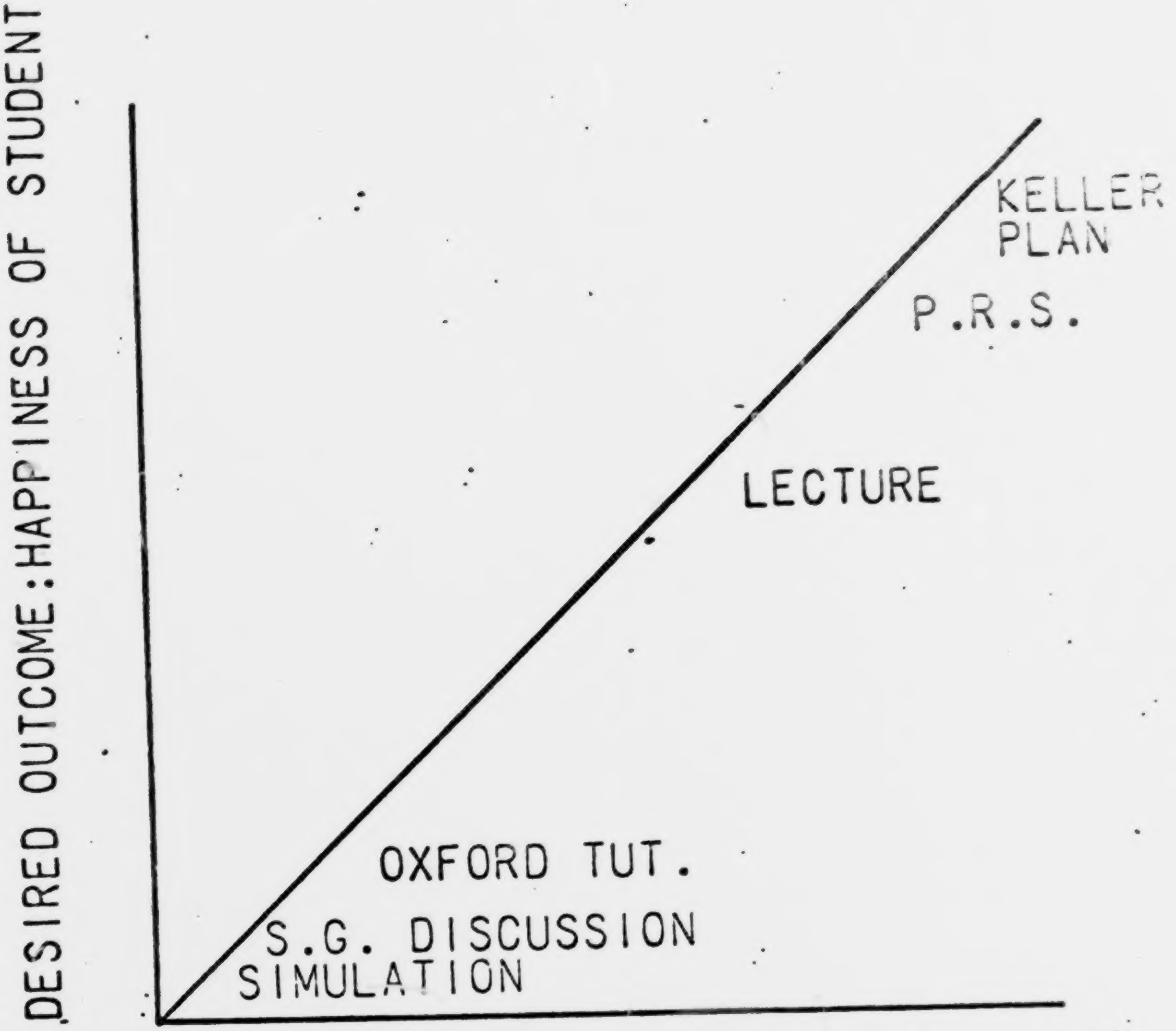

FIG.10 . EFFECTIVE FACTOR:LEARNER'S PERCEPTION OF PROBABILITY OF SUCESS.

FACTORS X OUTCOMES MATRIX

FACTORS

OUTCOMES	ACTIVITY	rf.	CONTACT	TIMING	ACCOUNT.	PRACTICE	CONSISTENT	PofS	EXPOSURE	RATIO	PERSONA	STYLE	CO.SKILLS	CHOICE	PROFESS
1.CONTENT															
2.INDEPENDENT	X	X		X		X	X	X				X		X	
3.CREATIVITY															
4.ACTIVISTS															
5.SCHOLARS															
6.TRANSFER															
7.HYPOTHESES															
8.SELF															
9.COMM.															
10.ATTITUDE	X		X	X			X			X	X			X	
11.MOTOR															
12.CLINICAL															
13.HAPPINESS-I															
14.HAPPINESS-S															
15.ECONOMIC															

FACTORS X DESIGNS MATRIX

DESIGNS

FACTORS	LECTURE	S.G.DISC.	KELLER	SIM.	P.R.S.	OXFORD	LAB.	PRACTICUM	THESIS	COUNSELING
ACTIVITY										
rf.										
CONTACT		X				X	X	X		X
TIMING										
ACCOUNT.										
PRACTICE			X	X			X	X	X	
CONSISTENT										
P of S										
EXPOSURE										
RATIO										
PERSONALITY	X	X				X	X	X		X
STYLE										
COMM.										
CHOICE										
PROFESS										

OUTCOMES X DESIGNS MATRIX

OUTCOMES	LECTURE	S.G.DISC.	KELLER	SIMULATION	P.R.S.	OXFORD TUT.	LAB.	PRACTICUM	THESIS
CONTENT	X		X		X	X			X
INDEPENDENT									
CREATIVITY									
ACTIVITIES									
SCHOLARS									
TRANSFER			X	X			X	X	
HYPOTHESES									
SELF									
COMM.									
ATTITUDE			X	X			X	X	
MOTOR									
CLINICAL									
HAPPINESS-I									
HAPPINESS-S									
ECONOMIC									

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A HEURISTIC MODEL OF ORGANIZATION DEVELOPMENT

By

William C. Smith - Associate Professor
East Carolina University

Kerlinger (1964) defines the heuristic method of science as a dynamic activity, of what scientists do as opposed to a static method that contributes systematized information to the world. In the heuristic view the present state of knowledge is important, but it is important primarily because it is a basis for further scientific theory and research. In other words, the heuristic view in science emphasizes problem-solving rather than facts and bodies of information alone.

Tolman (1951, p. 283) in attempting to delineate a heuristic design suggests that it is a pragmatic working model and can "be defended only insofar as it proves helpful in explaining and making understandable already observed behavior and insofar as it also suggests new behaviors to be looked for." Tolman's approach is somewhat consistent with Bruner (1961) who envisioned a "heuristic of inquiry" which has to do with the process of trying to find out something. He argues that he has never seen anyone improve in the art and technique of inquiry by any means other than engaging in inquiry.

Emmeshed too in the concept is the notion succinctly expressed by Riley (1963) who distinguishes two main phases of the basic research process. One, an empirical phase in which the researcher is led by ideas and theories to certain facts, and second, by an interpretative phase, in which the researcher compares these facts with his initial ideas and theories and hence tries to understand their larger significance.

The research process is diagrammed by Riley (p. 4) thusly:

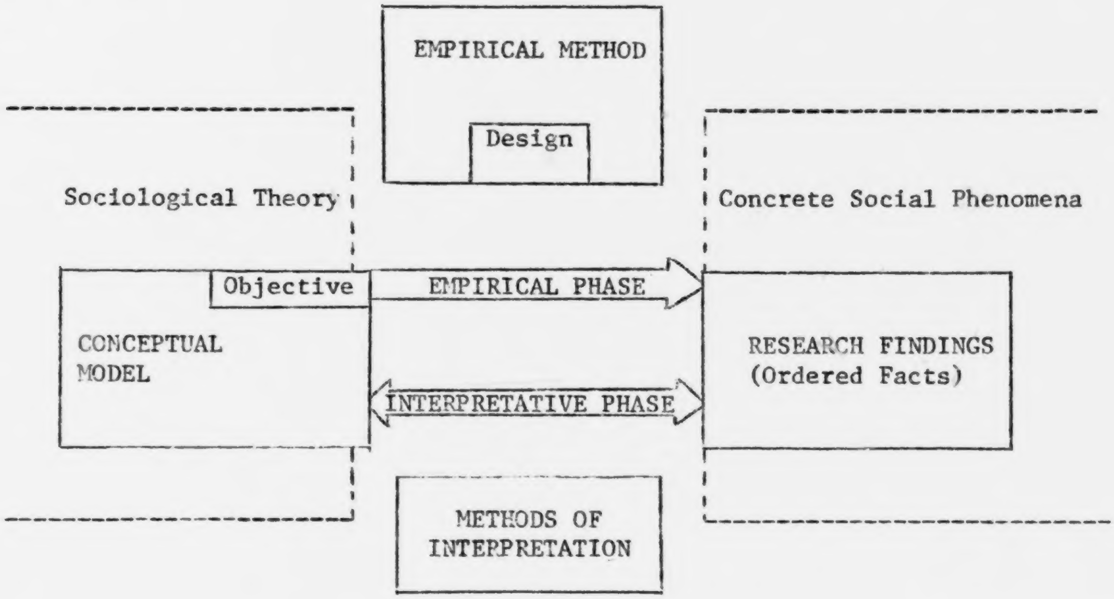


Figure 1. Diagram of the research process

A heuristic model, or the developmental process of a heuristic model, using Riley's framework would, therefore, move from a conceptualization of existing models, by way of an appropriate interpretative design to the literature, back to a newly constructed conceptual model.

The discussion which follows utilizes this framework.

The Conceptual Model

The major purposes of the study were to (1) examine existing behavioral science literature and research findings about organization and, utilizing an exploratory design, develop a heuristic model to portray the process of organizational growth and development and (2) specify implications of the model which would provide change agents with suggested methods for implementing change efforts. The underlying rationale for the study was the notion that the scientific research process would enable the researcher to bring together for comparison specific facts from the real world of concrete social phenomena, on the one hand, and corresponding ideas and propositions from the behavioral sciences on the other. In this manner, the researcher sought clues to the understanding of organizational growth and development and insights for developing hypotheses.

An exploratory study leading to insights must be regarded as simply a first step of the scientific method. Later, more carefully controlled studies are needed to test empirically whether the insights that emerged have general applicability.

As an exploratory study, the investigation exhibited two well defined aspects: (1) interpreting research findings from the behavioral sciences and organization theory allows one to generate new theoretical positions; and (2) specifying implications of the model might be generalized to more adequate program development.

The study began with a basic definition of Organization Development, hereinafter referred to as O D, as an effort (1) planned, (2) organization wide, and (3) managed from the top, to (4) increase organizational effectiveness and health through (5) planned interventions in the organizations "processes", using behavioral-science knowledge. (Beckhard)

The criteria for examining conceptual change models were concerned with:

1. Accounting for the stability and continuity in events and accounting for change in them.
2. The source of change in the model.
3. Accounting for goals and directions that are intended.
4. Providing levers or handles for affecting the direction, tempo, and quality of the change processes.
5. The place and role of the change agent.

Selected models of OD were reviewed and compared against these criteria. The number of models examined were confined to representative types rather than an exhaustive review of all models.

Three models identified by Bennis (1963) and a similar listing by Chin (1969) provided a frame of reference for analyzing efforts of the utilization of knowledge in effecting organizational change. One approach, termed as a "socio-therapeutic" or "equilibrium" approach, is associated with the Tavistock Institute and the work of Jaques (1951), Menzies (1960), and Sofer (1962). The second and third approaches are associated with the National Training Laboratories where practicing social scientists have applied principles and techniques of social psychology to organizations. An "organic" theory of change is illustrated primarily by the ideas of Blake and Mouton (1964), Shepard and Blake (1962), and Bennis (1966). The third approach, based on the ideas of Argyris (1962) and Chin and Benne (1969), was referred to as a "developmental" model.

To this framework was added yet another model -- that by Gordon Lippitt (1969), termed a "situational confrontation" model. While this model incorporates many of the elements and features of the models identified by Bennis and Chin, its approach is different and it provides yet another dimension to the growing process of OD.

The four models utilized represent varying conceptualizations of organizational change utilizing educational strategies. The equilibrium model emphasizes stability. Change evolves out of tensions and conflicts in the system. The model assumes organization, interdependency, and integration among its parts and that change is a derived consequence of "exactness of fit" between parts of the system or between the system and other surrounding and interacting systems. The sources of change derive from structure, i.e., structural stress and strain externally induced or internally created. The mechanism for change is therefore tension release through anxiety reduction. Change goals in the equilibrium model are associated with organizational survival and, therefore, take on the values of vested interest. The targets of change efforts are system stresses and strains (interfacing situations), and change agents generally utilize psychotherapy of some form of clinical experience to address perceived difficulty in functioning.

The organic model exhibits a teleological and organismic bias in the manner in which the whole is related to its parts. Because its basic strategy implies system integration, the approaches generally utilized are problem-solving and team development. The source of change relates to systemic power distribution and conflict situations. System improvement is, therefore, concerned with the redistribution of power and conflict resolution. The direction of change in the organic model is cyclic in nature, and this direction is enhanced by member collaboration and adaption. The target of change is the problem-solving activities of an organization, and the normative goal is the improvement of organizational culture. The change agent is generally a trainer-teacher in a role external to the system.

The developmental model assumes continual change and development, i.e., the growth and/or decay of a system over time. Stability at any given time is a "snapshot" of a living process, a state that will give way to another state. Since change is rooted in the very nature of living organisms there is the supposition that change is "natural." The laws of the developmental process are not necessarily fixed (Chin, 1969, p. 310), and "some effects of environment are presumably necessary to the developmental process." Since the direction of change is considered "built-in" and natural, it is moving toward some goal, the fulfillment of its destiny, granting no major blockage. Intervention by the change agent is viewed as the removal of blockage and helping clients to develop and maintain authentic relationships. Approaches utilized are generally T-group or other problem-solving activities.

The fourth model, a situational-confrontation model, is a combination of the other three models. The model is based on the idea that organizations have stages of potential growth and that they continually experience crises and situations demanding certain responses that are indispensable if the organization is to achieve its next stage of growth. Stability follows a developmental conceptualization which is a time-slice of a living process--a stage that leads to growth or decay. Positive change or renewal in Lippitt's terms, however, is not natural. Following organic notions, it must be induced through interfacing processes of dialogue, confrontation, search, and coping. The direction of change is toward the greater goal of developmental maturity. Interim goals reflect survival and equilibrium. The situational-confrontation model differs from the other approaches in its conception of the role of the change agent (renewal stimulator). In this approach the change agent is considered a part of the internal organization, although an external role is not discounted. The other models consider the change agent as researcher, trainer, or consultant, and generally external to the client-system.

These four models are developed around three educational formats--training, consultation, and survey feedback. Although these strategies are not conceptually discrete forms and, in practice, are variously permuted and combined, they provide a review of relevant models and form the basis for the development of a new model.

METHODOLOGY

This study did not test specific hypotheses. It was intended, rather, to provide insights into the current phenomenon of OD which may be empirically tested by subsequent studies. Thus, an exploratory study which searches for the broader meaning of existing research generates new theoretical positions. The present study was limited to that purpose.

The primary emphasis in the research methodology was placed on identifying, defining, and categorizing certain properties found in varying approaches to planned organizational change. By starting with a quantitative analysis, which allowed the researcher to classify the significant elements in the literature about organizations, it was possible to advance systematically to another means of analysis--qualitative analysis. Qualitative descriptions in this study served the purpose of dealing with organizations as a "whole" social system rather than isolated aspects or selected parts of wholes. The research, in other words, began the study with a loosely defined conceptual model and an exploratory objective. In this manner, all the variables analyzed were treated as explanatory or potentially explanatory. By this process, available OD data were followed in order to discover which variables may prove relevant to the new model and how they may be interrelated.

The scheme for analysis and the concepts it generated were not initially precise; rather, exploration was based on available models in an attempt to generate data and elaborate on them for what Merton (1957, p. 108) termed the "recasting of theory." A tentative model was developed as a heuristic device to serve and guide the formultaion and solution of organizational problems. It was a working model, tentative, and a way of constructing a particular set of social phenomena. The researcher was therefore able to review and revise it in the light of the evidence obtained.

The principal research methodology employed in this study was the analysis of the literature about organization by a variation of the technique of content analysis. The purpose was to classify the significant elements in OD on the basis of a tentative conceptual design and to learn how these elements could be operationalized by professional change agents working collaboratively with client system members.

The cases for this study included a large number of studies drawn from a variety of different kinds of organizational settings. The cases represented multidisciplinary efforts, particularly sociology, psychology, administrative science, and organization. Each case was compared against the fundamental dimensions of change as developed in a scheme for analysis. The guidelines by which research findings were analyzed involved the following criteria: (1) accounting for stability and continuity in organizations, and accounting for change in them; (2) determining the source of change; (3) determining forces affecting the direction, tempo, and quality of change processes; (4) determining goals and direction of change efforts; and (5) principal parties (behavioral units) involved. In addition to these items, the researcher was also interested in basic information about the nature of the environmental settings and the type of organizational system.

From this preliminary search, whether or not the cases met the criteria spelled out in the scheme was determined. Cases were included if they contained the following variables: a change agent, a client system, organizational diagnosis, a planning strategy, and/or consequences of change efforts.

A basic premise of the research approach, following Jones (1968), was that if a substantial number of references that contained the foregoing variables could be amassed and analyzed, it would be possible to formulate generalizations about the subject and conceptually arrange these generalizations and the variables therein into a heuristic model (Table 2). Sixty-two of the cases were from scholarly journals, covering a variety of disciplines. The Harvard Business Review, the Administrative Science Quarterly, and the American Sociological Review accounted for 24 cases. Another 166 cases, several of which were book length, were secured. Monographs provided 8 cases, and another 16 were secured from miscellaneous sources such as magazines, unpublished material, government documents, and special case-preparation programs.

Scope and Limitations of the Study

A limitation of the design was the utilization of available data. First, the data were not originally assembled for present purposes, and some were often incomplete or in a form not readily adaptable. Second, reliability was difficult to establish. Planning strategies, for instance, could not be reproduced nor could the participants be questioned. Finally, some of the data were in a form that did not fit present definition of the concepts. Thus, the study relied heavily on the judgment of the researcher.

The conceptual design of this study rested upon the premise that planned organizational change develops through the conscious, deliberate, and planned efforts of some person, group, or organizational unit and a change agent working collaboratively toward derived goals. In other words, the objective of change efforts was seen to be the improved performance and operation of organizational systems (client systems) utilizing appropriate knowledge and social technology.

Table 1: Sources of cases on planned organizational change

Source	Number of cases
Journals:	
Adult Education	1
Administrative Science Quarterly	8
American Journal of Orthopsychiatry	1
American Psychologist	1
American Sociological Review	5
California Management Review	2
Community Mental Health Journal	2
Education Quarterly	1
Harvard Business Review	11
Human Organization (formerly Applied Anthropology)	2
Human Relations	3
Journal of Abnormal Social Psychology	3
Journal of Applied Behavioral Science	2
Journal of Applied Psychology	1
Journal of Secondary Education	1
Journal of Social Issues	2
Kansas Business Review	1
Management Review	1
Management Science	1
Personnel	1
Personnel Administration	4
Personnel Journal	1
Progressive Education	1
Psychological Review	1
Rural Sociology	1
Social Forces	1
Social Services Review	1
Training and Development Journal	2
Books	166
Monographs	8
Miscellaneous	16
Grand Total ----	252

The concept of planned organizational change adopted was a program of self-study and action, rather than to provide a plausible description of varying organizational accomplishments. Involved in the design were mutual goal-setting by parties in the change, experience-based learning, and a specific planning strategy.

Organizational change was limited to the utilization of knowledge as a basis for change. The three educational strategies incorporated in the design were (1) education and training, (2) consultation, and (3) survey feedback. Organizational change brought about by extreme means of force, terror, or coercion was not considered. Neither did the design consider natural change, except by reference, since no apparent consciousness, deliberativeness, or goal-setting occurs.

The conceptual design viewed organizations as being in social equilibrium, and planned change as a new state of equilibrium for the proper functioning of the system. All the significant components of the system are in support of each other. In this state, subsystems in the organization are more able to find psychological security because of the absence and/or reconciliation of conflicting attitudes, values, and beliefs. Built into the change state is a tendency toward movement, growth, and development. The concepts of adaption and resistance to change and the consequences of change were, therefore, drawn upon for explanation.

Research Findings

Five major elements were found to be involved in most change processes and provided a basic construct for the development of the heuristic model.

In other words, five measurable features of groups were identified in the Heuristic Model which should vary with the organization's ability to collect valid data, feed it back to the appropriate individuals, and develop action planning on the basis of the data. These variables are:

1. Their orientation toward identification of organizational mission and values.
2. Leadership styles, either flexible or rigid.
3. The ability to utilize experience-based behavior.
4. The degree of openness of communication systems.
5. Their orientation toward collaboration and conflict.

Interpretation

Following Zetterberg's (1963) technique of developing axiomatic theories, these variables in the Heuristic Model are related in the following ways:

1. The greater the orientation toward open communication, the greater the ability to utilize experience-based behavior.
2. The greater the flexibility of leadership, the greater the orientation toward identification of mission and values.
3. The greater the orientation toward identification of mission and values, the greater the ability to utilize experience-based behavior.
4. The greater the ability to utilize experience-based behavior, the less the orientation toward conflict.
5. The greater the orientation toward open communications, the less the orientation toward conflict.

6. The greater the orientation toward identification of mission and values, the less the orientation toward conflict.
7. The greater the orientation toward open communications, the greater the flexibility of leadership.
8. The greater the flexibility of leadership, the greater the ability to utilize experience-based behavior.
9. The greater the orientation toward identification of mission and values, the greater the orientation toward open communication.
10. The greater the flexibility of leadership, the less the orientation toward conflict.

The linkages between determinant and result in these propositions are assumed to be stochastic.

If the last four findings are selected as propositions, the other findings thus become theorems. Together, the four major propositions and the six theorems represent all the possible two-variable relationships, when order does not make a difference. The resulting 10 hypotheses explicate all the interrelationships of this system of 5 variables, making research easier.

Operationalizing the Model

Because the planning process is central in OD, a detailed description of the process was undertaken. The asumptions and concepts developed in the Heuristic Model were incorporated into the description of how the process works.

System changes in each of the change models reviewed take the form of problem-solving. In each model, the achievement of optimum reality orientation depends on the system's ability to adapt to its changing internal and external environments. In OD, intervention is the guidance of the organization in developing and institutionalizing its own problem-solving structures and processes. The structures and processes must take into consideration both the human problems, or relationships and morale, and the technical problems, such as goals of production and distribution. System problems in this sense are socio-technical in nature rather than either social and/or technical as generally treated in the literature and in practice.

The Heuristic Model accounts not only for social action, but also for adaptation and/or resistance to change, and for the consequences of the responses and resulting changes occurring within and between an organization. The first consideration of intervention is, however, the action process, which is composed of strategies for data collection, feedback of observations and other data, and planning on the basis of feedback.

The stages of diagnosis and intervention in OD strategies cannot be completely separated. Both occur simultaneously; i.e., data collection constitutes an intervention, and the style of intervention will reveal new data derived from the reaction to the intervention. The action process in OD, by this same token, cannot be rigidly classified, but a broad classification can be suggested:

1. Data collection: (a) perceived existence of tension, (b) identification of symptoms, (c) enlarging span of cognition; and (d) delineation of problem.

2. Feedback of observations or other data—communication of problem.

3. Planning on the basis of feedback: (a) establishing desired objectives, (b) examination of alternative processes, (c) initiating support and legitimation, (d) activating change process, and (e) critiquing results.

The major objectives of the action phases of the Heuristic Model was to present at a conceptual level the flow of social action from the perception of tension in a client system to its final completion or termination. Emphasis was on conceptualizing the complex action process in a time sequence. If the model and its phases are to have application in a real organizational situation, the phases have to be articulated in terms of actions to be taken by individuals and groups. This is true whether the model is being used as a guide to action by the change agent, as an evaluative instrument, or by the researcher for more rigorous analysis. One suggested approach to measurement of human process variables at each stage of the action process would be to assign a numerical rating at each step on the ability of organizational members to utilize the heuristic process. In other words, the extent at each step to which organizational members practice:

1. Identification of organizational mission and values.
2. Flexible leadership.
3. Utilization of experience-based behavior.
4. Open communications.
5. An orientation toward collaboration.

In so doing, the action process could provide yet another framework within which research could find new knowledge.

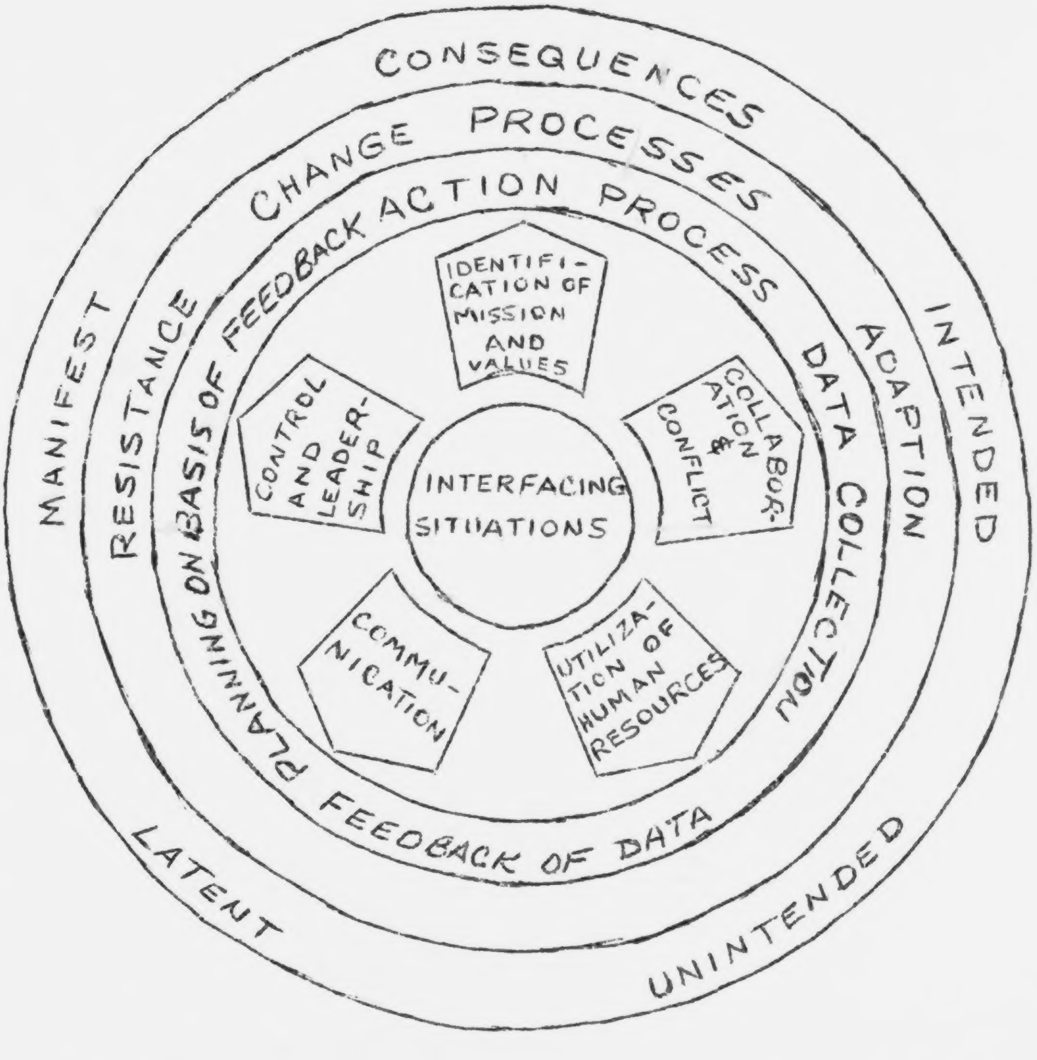
Summary and Implications

The schematic illustrated in Figure 2 summarizes the total OD process. Here the two discernible dimensions of OD--diagnosis and intervention--are brought together to form a conceptual composite.

The diagnostic or analytic phase is represented in the schematic by the center circle "interfacing situations" and the five surrounding strategic variables generated from the research design.

The intervention or action phase, developed from the diagnostic phase, is represented by the "centrifugal rings" of the schematic and are intended to illustrate implementation of the action process with subsequent change and consequences of change being considered.

In the heuristic approach to OD, both phases are necessary for meaningful organizational change.



Firgure 2: Organization development process--a Heuristic Model

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THE RELATIONSHIPS OF LEARNING ORIENTATION, NURSING ACTIVITY AND CONTINUING EDUCATION

BY

MARGARET D. SOVIE, PH.D.

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Professional nurses occupy a variety of positions in health care institutions. Over one-half, 53%, of employed nurses (of which 98.8% are women) occupy staff nurse positions. By role prescription, staff nurses spend the greatest proportion of their time in direct patient care activities. For this reason and also because they constitute the single, largest group of practicing nurses, it is important to know more about them, their motivations for continuing learning and their educational and nursing activities. This kind of information may provide insights which will be of assistance in the immediate future as planning intensifies to expand continuing education opportunities for professional nurses.

Purposes

The purposes of this study were: 1) to identify the learning orientations and patterns of nursing and continuing education activity of practicing staff nurses, 2) to compare two groups of nurses - participants and potential participants in short-term continuing education programs - in these variables, and 3) to identify any interrelationships between learning orientations, nursing and continuing education activity patterns and selected personal characteristics.

Definition of Terms

For the purposes of this research, the following definitions of terms were used:

Practicing staff nurses - registered professional nurses employed in staff nurse positions in any health care institution.

Participants - nurses who have participated in short-term continuing education programs during period January 1, 1970 - June 30, 1971.

Potential Participants - nurses who have not participated in short-term continuing education programs during period January 1, 1970 - June 30, 1971, but who may participate in these kinds of programs at some time in the future.

Short-term continuing education programs - programs varying in length from one to five weeks, and which require full-time attendance.

Learning orientation - "the major principle which gives meaning or direction to the continuing learning act or process undertaken by the adult learner."[1]

Pattern - the set of item variables which constitutes a common factor.

Continuing education activity - activity engaged in, either alone or in a group, "with the conscious intention of bringing about changes in information, knowledge, understanding, skills, appreciation and attitudes."[2]

Total educational activity - combined leisure time and job time continuing education activities.

Nursing activity - "an activity in which a staff nurse participates for the primary purpose of promoting the welfare of the patient, the nursing unit, the unit's personnel, or the hospital."[3]

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[1] Sherman B. Sheffield, "The Orientation of Adult Continuing Learners", in The Continuing Learner, ed. by Daniel Soloman (Chicago: Center for the Study of Liberal Education for Adults, 1964), p. 2.

[2] A. A. Liverright, A Study of Adult Education in the United States (Center for the Study of Liberal Education for Adults, 1968), pp. 3-4.

[3] Mary E. Bevis, "Report to the Directors of Nursing at the Five Chicago-Area Hospitals Cooperating in the Testing of the Job Activity Survey", Chicago, 1970, p. 1. (Mimeographed.)

Relation of Previous Research to the Hypotheses

Continuing education is considered essential to the practice of professional nursing, yet very little is known about the nurse as a continual learner. Other than Bennett, no one has investigated the learning orientations of nurses. Flaherty sought to determine what motivates nurses to participate in learning activities. It is important that this beginning be continued. It may be that nurses have different learning orientation patterns than those initially identified by Houle, Sheffield, Boshier and Burgess.

In the studies reviewed, a consistent finding was that different populations participate in continuing education activities in varying degrees. In addition, Johnstone and Rivera identified regional differences in educational participation. Bevis' study was the first in nursing which considered the total educational activity of nurses. Since her sample was limited to graduates of baccalaureate nursing programs, it was considered important to investigate the extent and nature of continuing education in a wider, more representative sample of the nurse population, including graduates of all three types of nursing programs - associate degree, diploma and baccalaureate. Also, Bevis' study was centered in the midwest. This study is focused on a different region of the country, the Central New York area.

Since no prior research was found in the area of nursing activity patterns, it was considered important to attempt to identify these. Once patterns of nursing activity, as well as patterns of leisure time and job time continuing education activity have been identified, different kinds of relationships can be studied.

The Hypotheses

Participation in short-term continuing education programs was the independent variable in this study. The subjects were divided into two groups: participants - those who had participated in short-term continuing education programs in nursing during the period January 1970 to June 1971; and potential participants - those who had not participated in these kinds of programs during this time period.

Seven hypotheses were tested.

1. There are differences in learning orientations, as measured by Sheffield's "Continuing Learning Orientation Index", between the participant and potential participant groups.

2. There are differences in the continuing education activity patterns of staff nurses during their leisure time, as measured by Litchfield's "Leisure Activity Survey", between the participant and potential participant groups.

3. There are differences in the job time continuing education activity patterns of staff nurses, as measured by Bevis' "Job Activity Survey", between the participant and potential participant groups.

4. There is a difference in extent of total educational activity, as measured by the combined scores on Litchfield's "Leisure Activity Survey" and Bevis' "Job Activity Survey", between the participant and potential participant groups.

5. There are differences in the nursing activity patterns of staff nurses, as measured by Bevis' "Job Activity Survey", between the participant and potential participant groups.

6. There is a relationship between extent of total educational activity and nursing activity patterns in the participant and potential participant

groups.

7. There are interrelationships among demographic data, learning orientations, total educational activity and patterns of nursing activity.

Sample Selection

Since nursing is primarily a female profession, the sample selected for the study was limited to female practicing staff nurses. The sample was selected from two groups of nurses within the Central New York Area. Nurses who had participated in short-term continuing education programs comprised the participant group. Nurses who had not participated in these programs and who worked in the same health agencies as the participant group comprised the potential participant group. The only known difference between the two groups of nurses was their "participation" status.

The Survey Instrument

The complete survey instrument consisted of four parts:

Part I: Job Activity Survey - 110 items
Part II: Leisure Activity Survey - 46 scorable items
Part III: Motivation Survey - 58 items
Part IV: Personal Data Questionnaire

Part I. Job Activity Survey

Bevis' "Job Activity Survey", the "JAS", was used to measure job time educational activity as well as nursing activity.[1] This investigator used the instrument exactly as designed by Bevis.

The "Job Activity Survey" consists of 110 items. Forty-seven of these items measure on-the-job educational activity and sixty-three items measure nursing activity. The total instrument was subjected by Bevis to procedures which measured face, content and construct validity.

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[1] Mary E. Bevis, "Role Conception and the Continuing Learning Activities of Neuphyte Collegiate Nurses" (unpublished Ph.D. dissertation, University of Chicago, 1971).

The instrument was also pretested at five Chicago-area hospitals with a stratified random sample of seventy-five registered nurses. Bevis subjected the pre-test responses to item analysis and concluded:

> Although the instrument had been designed to measure educational participation, the item analysis indicated that the instrument showed promise as a tool for evaluating the quality of nursing practice and the quality of on-the-job learning experiences.[1]

Bevis' suggestion for an additional use of the "JAS" instrument was accepted by this investigator. The responses to the educational activity items were used to measure educational participation. In addition, the responses to the nursing activity items were used to identify patterns of nursing activity.

Bevis did reliability testing of the instrument on data gathered in the pre-test. The split-half reliability determined from the responses of the 68 subjects to the 110 items of the instrument was .96 (corrected for attenuation). The test-retest reliability using twenty-two subjects was .88.[2]

The weighting of the forty-seven educational items was done by Bevis with a panel of eight nursing educators and eight nursing service administrators and nursing practitioners. Their judgment of degree of educativeness was the basis of the weights' assignment which ranged from a low of one to a high of four.[3]

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[1] Bevis, "Report to the Directors of Nursing at the Five Chicago-Area Hospitals Cooperating in the Testing of the Job Activity Survey, p. 3.

[2] *Ibid.*, p. 8.

[3] Ibid., p. 2.

The score for extent of educational participation on the job is calculated using the assigned weight and the number assigned to the designated time interval, zero to five. The range of possible scores is 0 to 650.

Part II: The Leisure Activity Survey

Litchfield's "Leisure Activity Survey", the "LAS", was used to measure leisure time participation in continuing education activities. The "LAS" was used exactly as developed by Litchfield with the following minor changes, which were initially made by Bevis with Litchfield's approval:

1. In the statement of purpose, the word "people" was changed to "nurses.

2. The wording of selected interval headings on the zero to five scale was slightly changed in order to match the format of the other instruments used.

Litchfield's "Leisure Activity Survey" ("LAS") uses a quantifiable six point scale. The "LAS" contains ninety-nine items, only forty-six of which are scored as educational. The intent of the instrument is purposefully masked to eliminate possible respondent bias about education. The fifty-three non-scored general, non-educational leisure activity items included allow all persons completing the instrument an opportunity to indicate participation.[1]

Litchfield tested the "LAS" by means of content and concurrent validation procedures.

[1] Ann Litchfield, "The Nature and Pattern of Participation in Adult Education Activities" (unpublished Ph.D. dissertation, University of Chicago, 1965), pp. 25-26.

Litchfield used a test-retest procedure to measure the "LAS's" reliability. She administered the "LAS" twice to twenty-three subjects. The interval between test administrations was two and one-half weeks. Only the forty-six educational items were scored. The product-moment correlation obtained was .77. She also used the Kuder-Richardson Formula 20 for calculating the reliability of the responses of her total sample of 1149 subjects. The correlation obtained from these data was .88.[1]

Litchfield's method for measurement of extent of educational participation was used in this study.

> An individual's extent of participation score was determined by multiplying each of the forty-six educational activities in which the respondent took part (possibilities are 0 to 46), by the weight assigned to that item indicating degree of educativeness (possibilities are 4 high to 1 low), and by multiplying that figure by the weight assigned to the time interval circled by the respondent on the scale for each group of activities (possibilities are zero for no participation to five for greatest participation.[2]

The forty-six individual item scores are summed for the individual's total score on "LAS". The maximum possible score is 615. The lowest total score possible is zero.

Part III: Motivation Survey ("Learning Orientation Index")

Sheffield's "Continuing Learning Orientation Index" was used to identify learning orientations. The instrument was used exactly as developed by Sheffield with the following minor changes.

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[1] Ibid., pp. 50-51.

[2] Ibid., p. 38.

1. The title of the instrument was changed to Motivation Survey. This was done to achieve consistency with the titles of the other instruments used as well as to eliminate a focus on learning orientation.

2. An explanation of purpose was added immediately prior to the directions. It read: "The purpose of this survey is to identify the factors motivating nurses to participate in educational activities."

3. The format of the directions was changed to be consistent with those for completing the other instruments.

The "Learning Orientation Index", as constructed by Sheffield, contains fifty-eight items which can be scored according to a five point scale. The items were validated primarily on content validity by a panel of ten adult educators.

Sheffield estimated the coefficient of equivalence reliability for the "Learning Orientation Index" by using the split-half method. The reliability for the fifty-eight items administered to his sample of 453 adults was .94.[1]

Part IV: Personal Data Questionnaire

The personal data questionnaire was designed by this investigator.

Data Collection

Each subject was given a six digit code number to guarantee anonymity. The first two digits designated the agency, the next three the individual subject and the sixth the group and particular short-term continuing education program(s) attended.

[1] Sheffield, The Orientation's of Adult Continuing Learners, p. 29.

The survey instrument, introduced by a cover letter, was mailed, along with a stamped addressed return envelope to the home address of each subject.

The mailing took place during the period September 27 - October 15, 1971. This first mailing resulted in a return of 174 questionnaires. One follow-up mailing to those who had not yet responded took place during the period October 21-26, 1971. The date of November 16, 1971, marked the close of the period for collection of data.

Limitations

1. The sample was selected from female registered professional staff nurses employed in the Central New York Region. Therefore, efforts at generalizing nationwide must be done with extreme caution.

2. The sample represented staff nurses employed in general hospitals, nursing homes, extended care facilities and public health agencies. It did not include representation from psychiatric or other specialized hospitals or institutions, industrial nurses, school nurses or private duty nurses.

3. Group II of the sample was self-selected. These subjects voluntarily attended short-term continuing education programs. Their enrollment in these programs was the basis for their selection.

4. The time period during which Group II subjects participated in short-term continuing education programs was January 1970 through June 1971. The data were collected during the period September 27 - November 16, 1971. History and maturation were possible sources of invalidity over this period.

5. Questionnaires were self-administered. Personal characteristics of some subjects may have interfered with accurate completion of the question-

naire which required self-evaluation by the respondents. Some individuals have a tendency to underestimate their abilities and activities and others overestimate these. It is assumed that the errors will be randomly distributed over the items and not influence the results.

6. Measurement error must be assumed as present in each of the instruments.

7. Judgments were made on the basis of a return of 78.2 per cent. There was no way to allow for the 21.8 per cent who did not respond.

The Data Analysis Plan

An index card for each member of the selected sample was made. This card contained name, position, agency, the particular short-term continuing education program attended, if any, with its inclusive dates, and an assigned identification number.

The identification number was written in the designated place on the last page of each survey instrument. The coded instruments were mailed to the home address of each member of the sample. As the completed questionnaires were returned, the appropriate notation was made on each index card.

Two hundred and thirty-seven completed questionnaires were returned and all were used in the data analysis. The data from each were transposed to an IBM coding form for key-punching. A blank was left to represent any incompleted item. Computer cards were keypunched, verified and the data analyzed using the IBM 370-155 computer. The potential participants, 114 subjects, composed Group I and the participants, 123 subjects, composed Group II.

Frequency counts were done for each item in the personal data questionnaire and the associated percentages were calculated.

The statistical characteristics - distribution, range, mean, and standard deviation were computed for the "LAS" and "JAS" educational items, as well as for the extent of total participation in continuing education activities ("LAS" plus "JAS" educational scores). To determine significant differences between the two groups in these variables, t-tests were done.[1]

The data from the fifty-eight item "Learning Orientation Index", the forty-six educational activity items of the "Leisure Activity Survey", the forty-seven educational items and the sixty-three nursing activity items from the "Job Activity Survey" were each subjected to the principal components analysis with varimax rotation.[2] A t-test was done on mean differences of factor scores for each extracted factor to determine significant differences between the potential participant and participant groups in these patterns.

Pearson product-moment coefficients of correlation were computed between the factor scores of the "Learning Orientation Index", the "JAS" nursing activity patterns, the total extent of educational activity and seven personal characteristics: age, number of children - total, pre-school age, elementary school age, secondary school age; nursing preparation; and education beyond the basic program.

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[1] Descriptive statistics were derived using the Tsar statistical package for the IBM 370-155 computer which is available at the Syracuse University Computing Center.

[2] The program used was "The Principal Components Analysis with Varimax Rotation" with subroutines written or adapted by Paul R. Lohnes, State University of New York at Buffalo, Rolf H. Monge, Silas Halperin and Peter Prowda at Syracuse University. The principal components analyses were done using a missing data correlation matrix. Therefore, factor scores will approach a mean of zero and a standard deviation of one and intercorrelations will approach zero. This effects mainly the factor analysis of the "Learning Orientation Index" since two subjects, both members of the potential participant group, left this instrument blank.

Description of the Respondents

Two hundred and thirty-seven nurses representing 30 general hospitals, 5 public health agencies and 7 nursing homes and/or extended care facilities completed and returned the survey instrument. This constituted a 78.2 per cent return rate. The potential participants, who composed Group I, returned 114 completed instruments - a return rate of 78.6 per cent. The participants, who composed Group II, returned 123 completed instruments - a return rate of 77.8 per cent.

The characteristics of the total sample can be summarized as follows: the nurses were primarily young - thirty years of age or less, married and slightly less than half were mothers of children of pre-school and elementary school age. They were predominantly graduates of associate degree and diploma programs with the greatest number having had their basic preparation in diploma programs. Slightly less than half, 48 per cent, had some credit education beyond the basic program. There were no nurses with either master's or doctoral degrees. Less than a third, 29 per cent, indicated membership in any professional associations. The largest number were employed in medical-surgical areas with an experience range of one to twenty or more years with the majority having ten years or less of experience.

The participant and potential participant groups did not vary significantly from each other in the variables of marital status, total number of children, number of children of pre-school or elementary school age, nursing preparation, education beyond the basic program or professional affiliations. However, there were significant differences between the two groups in the variables of age, number of children of secondary school age, clinical specialties and years of nursing experience. The respondents in the potential participant group, compared to the participant group, were younger, had fewer secondary school age children, represented more clinical specialties, were less involved with specialty units (e.g., respiratory, coronary care), and were likely to be included in the extremes in years of nursing experience (one year or less and twenty years or more). The differences between the two groups in these variables warrants consideration as the other results are presented.

Steps Followed in Testing Hypotheses

All data were analyzed using the IBM 370-155 Computer. An alpha value of .05 was established as the acceptable significance level for the statistical tests used.

Step 1. Principal Components Analysis with Varimax Rotation

A principal components analysis with varimax rotation was performed on the data from each of the three instruments used - the "Learning Orientation Index", the "Leisure Activity Survey" and the "Job Activity Survey".[1] The principal components analysis was done as the initial step in testing hypothesis 1, 2, 3 and 5. This analysis enabled identification of the learning orientation patterns, the leisure time and job time continuing education patterns, and the nursing activity patterns. This procedure of principal components analysis with varimax rotation resulted in reducing the data to a simple structure and the extraction of the principal factors from the item variables of each instrument. Harman states that this is the fundamental purpose of factor analysis - "to comprehend a large class of phenomena (the values of a set of variables) in terms of a small number of concepts (the factors)."[1] The varimax solution also has the property of invariance. Harman explains that this means "that varimax factors obtained in a sample will have a greater likelihood of portraying the universe varimax factors".[2]

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[1] The program used was "The Principal Components Analysis with Varimax Rotation" with subroutines written or adapted by Paul R. Lohnes, State University of New York at Buffalo, Rolf H. Monge, Silar Halperin and Peter Prowda at Syracuse University.

Step 2. Identifying and Defining the Patterns

The following criteria were used in analyzing the factor structures and defining the patterns:

1. An item was to have a factor loading (coefficient) of at least .40 to be included in a common factor. This loading was selected in order to facilitate a comparison of extracted patterns with those found in the original studies which used this same criterion.

2. Factors which contained at least two items with loadings of .40 or more and which accounted for 2 per cent or more of the variance were defined and retained in the final solution. Such factors were considered to have practical significance.

3. The factor name was derived from the nature of the variables having the highest correlations with the factor and is representative of all variables within the factor, including those which had low correlations.[3]

Step 3. Identifying Differences in Patterns Between Participand and Potential Participant Groups

Factor scores in each pattern were computed using the Kaiser Varimax Method.[4] Means of factor scores for each group, participants and potential participants, were computed and differences between the means

[1] Harman, Modern Factor Analysis, p. 141.

[2] Ibid., pp. 307-308

[3] Ibid., p. 141.

[4] Henry F. Kaiser, "Formula for Component Scores", Psychometrika (Vol. 27, No. 1, March 1962), pp. 83-86.

were determined by t-tests.

It is important to note the signs of the factor loadings in each pattern. Negative loadings are a function of the numerical analysis, except in bipolar factors. Thus, the "lowest" mean factor score in a factor composed of activity item variables with negative factor loadings represents the "highest" degree of participation in that factor.

Step 4. Computing Educational Scores and Testing for Differences Between Groups

The methods specified in the section of Chapter III titled "The Survey Instrument" were used to compute leisure time and job time education scores. These scores were then summed to get a total educational score. Differences in extent of participation in educational activities between the participant and potential participant groups were determined by t-tests. The procedures were used in testing the fourth hypothesis.

Step 5. Determining Interrelationships Between Selected Variables

Pearson product-moment coefficients of correlation were calculated to measure interrelationships. This procedure was used specifically in the testing of the sixth and seventh hypotheses.

Reliability of the Instruments

The Kuder-Richardson Formula 20 was used to compute the reliability coefficients from the data collected on each of the instruments used in this study. The results were as follows:

"Learning Orientation Index"	r = .96
"Leisure Activity Survey"	r = .84
"Job Activity Survey:"	
educational items	r = .87
nursing activity items	r = .95

The Results

Seven hypotheses were tested and in each instance the alternative hypothesis was accepted.

Hypothesis I: Eight patterns of learning orientation were identified.

I. Learning Orientation

II. Goal Orientation
   1. Personal-Goal
   2. Occupational-Goal
   3. Professional-Goal
   4. Societal-Goal

III. Activity Orientation
   1. Need-Fulfillment
   2. Personal-Sociability
   3. Professional-Sociability

The participant group scored significantly higher than the potential participant group in both the learning and the personal-goal orientation patterns.

Hypothesis II: Twelve leisure time continuing education activity patterns were identified and arranged in the following typology:

I. General and Specialized Knowledge Seeking
   1. Literary/General Cognitive
   2. Literary/Special Interest
   3. Mass Media/Current Affairs
   4. Specific Information/Hobby

II. Religious Activity

III. Home/Family/Community Interests

IV. Participation in Special Interest Activities

V. Classical Music/Performing Arts

VI. Humanistic Concerns

VII. Organized Learning
   1. Group Learning
   2. Course Taking
   3. Audio-Visual Assisted Learning

The participant group scored significantly higher than the potential participant group in two leisure time continuing education activity patterns: Group Learning and Course Taking.

Hypothesis III: Twelve job time continuing education activity patterns were identified and arranged in the following typology:

- I. Clinical Information
    - 1. Clinical Knowledge Seeking
    - 2. Reference Consulting
- II. Organized Group Learning
    - 1. Group Learning - Participation/Preparation
    - 2. Inservice Education
- III. Professional Growth and Development
    - 1. Professional Activities
    - 2. Professional Nursing Practice - Decision Making
    - 3. Personal Professional Development
    - 4. Group Participation - Hospital/Agency Related
    - 5. Organizational Activities - Profession Related
    - 6. Information Seeking - Multi-Media
- IV. Patient-Centered
    - 1. Patient-Centered Information Seeking
    - 2. Planning Nursing Care

The participant group scored significantly higher than the potential participant group in four job time continuing education activity patterns: Clinical Knowledge Seeking; Planning Nursing Care; Group Learning - Participation/Preparation; and Professional Nursing Practice - Decision Making.

Hypothesis IV: The participant group differed significantly from the potential participant group in extent of total educational activity. The participant group had significantly higher scores in both job time and leisure time continuing education activities.

Hypothesis V: Ten nursing activity patterns were identified and arranged in a typology taken from the newly enacted definition of professional nursing in New York State.

- I. Through Such Services as Casefinding, Health Teaching, Health Counseling...
    1. Teaching/Coordinating Patient Care and Nursing Activities
    2. Counseling Patients, Family, Staff/Planning Patient Care
    3. Teaching Other Health Personnel
- II. Provision of Care Supportive to or Restorative of Life and Well-Being and Executing Medical Regimens...
    1. Life-Sustaining Nursing Measures - Physical/Spiritual
    2. Meeting Physical Needs of Patients Through Nursing and Medical Regimens
    3. Treatments - Nursing/Physician Ordered
    4. Medications, Vital Signs and Recordings
    5. Nursing-Related
    6. Nursing Directed or Assisted
    7. Concern for Groups of Patients

Significant differences were found between the participant and potential participant groups in three nursing activity patterns. The participant group engaged more frequently than the potential participant group in the nursing activity patterns: Teaching/Coordinating Patient Care and Nursing Activities; Counseling Patients, Family, Staff/Planning Patient Care; and Life Sustaining Nursing Measures - Physical/Spiritual.

Hypothesis VI: Significant positive relationships were found between seven different nursing activity patterns and the extent of total educational activity. These relationships differed in degree between the participant and potential participant groups.

Hypothesis VII: Significant interrelationships were found between selected demographic variables, learning orientations, total educational activity and patterns of nursing activity.

Conclusions

1. Learning orientations were of three major types - learning, goal and activity. The goal orientation divided into the sub-types of personal-goal; occupational-goal; professional-goal and societal-goal. The activity orientation divided into two major types - sociability and need-fulfillment. The sociability orientation consisted of two sub-types: personal-sociability and professional-sociability.

2. Continuing learners differed in the extent to which they held various learning orientations. The stability of the orientations is yet to be determined.

3. Nurses who had participated in short-term continuing education programs had significantly higher scores in both the learning orientation and the personal-goal orientation than did the potential participants.

4. All nurses participated to some extent in continuing learning activities, both during their leisure and job time.

5. Nurses who had participated in short-term continuing education programs differed significantly from potential participants in selected patterns of continuing education activity.

6. Nurses who had participated in short-term continuing education programs appeared to have a different life style which included more time for a wide variety of learning experiences. This was apparent in both their leisure and job time continuing education activities. These nurses may be described as active learners who employed a variety of methods in their continuing learning activities.

7. There were positive relationships between extent of total educational activity and seven of the ten nursing activity patterns. Continuing education

appeared to be a significant factor in relationship to the degree nurses participated in selected nursing activities.

8. Extent of past continuing learning activity appeared to be as important a variable as level of formal education for predicting the extent of total educational activity.

9. Nurses who had attended short-term continuing education programs participated more extensively in the nursing activities comprising the patterns: Teaching/Coordinating Patient Care and Nursing Activities; and Counseling Patients, Family, Staff/Planning Patient Care. There was also a positive relationship between both of these nursing activity patterns and extent of total educational activity. The findings suggest that when a nurse is secure in her knowledge she is more likely to engage in these kinds of nursing activities.

10. The type of basic nursing program attended by nurses may have an influence on their learning orientations, and their participation in continuing education activities. This possibility awaits further research for clarification or rejection.

11. Learning orientations appeared to be related to both age of the nurses and the number of children they had.

12. A low negative relationship existed between total number of children that the nurses had and their extent of total educational activity.

13. There were significant interrelationships between the learning, personal-sociability, occupational-goal, societal-goal and personal-goal orientations and total educational activity.

14. The variable, basic nursing preparation, was related to selected nursing activity patterns. The significance of these relationships awaits

further research.

15. The personal characteristics of age, total number of children and children of elementary and secondary school age were negatively related to selected nursing activity patterns.

Opinion Leadership in Family Living Among Low Income Homemakers in the Expanded Nutrition Program in Ohio*

by: Doris H. Steele, Ph.D., Supervisor and
Program Leader in Home Economics, Vermont
Extension Service

Welcome from across the border! Specifically, greetings from Vermont. It is indeed a pleasure to attend your conference and to become more aware of the progress being made in the adult education field which, incidentally, is making great strides.

I truly feel when man finishes his formal education he should consider his quest for knowledge is just beginning and must continue. One might say search for education continues from the cradle to the grave. Through education, man's personality is enriched by widening his intellectual horizon. Education gives man the knowledge to understand his observations and what lies beyond his personal experiences.

Why study research? The purpose, as it relates to your area of concern, I believe is to improve adult education. And so, it is indeed a pleasure to share the research process as it relates to my specific study, "Opinion Leadership in Family Living Among Low Income Homemakers in the Expanded Nutrition Program in Ohio."

Need for Study

The cooperative Extension Service, along with other agencies, has directed a considerable portion of its resources to work with low income families. The most current emphasis of the Extension Service is the expanded Food and Nutrition Program with low income families in the 50 states and Puerto Rico.

As Extension assumed the leadership of working with low income families in family living, it needed to develop new techniques and methods. One that had not been developed to any extent was working through the leaders among the low income homemakers. To conserve resources--time, money and energy--and reach a larger number of clientele more adequately, it seemed necessary to identify those opinion leaders from whom low income homemakers sought advice and information in family living.

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*Presentation given at the Adult Education Research Conference, Montreal, Canada, April 5, 1973.

Opinion leaders are defined as those individuals from whom others seek advice and information. Rogers[1] said they are most often members of the social system in which they exert their influence. These persons channel information by personal communication to their followers.

Studies have been made regarding the adoption of farm practices, medical practices, power structures of communities, education and the like. A great deal is known about the social and personal characteristics of opinion leaders among the middle class. Corresponding studies directed toward the identification of opinion leaders among the low income are conspicuously lacking.

Beavers[2] said the cooperative Extension Service, in helping low socioeconomic families, must involve the people directly in helping themselves. Although their leadership was not readily recognized, it did exist.

Brown and March[3] suggested one goal of Extension in working with the low income would be to work with lay leaders and others in the community in developing an attitudinal climate that would encourage participation in educational training programs and would encourage local people to seed appropriate assistance from all agencies.

The Study

The present study was an early attempt at identifying persons who are opinion leaders in family living among low income homemakers. The study identified the personal and social characteristics of these leaders.

To accomplish the major purpose of this study, answers to the following questions were sought:

1. To what extent did opinion leaders exist among low income homemakers?
2. Did opinion leaders among the low income homemakers have more formal education than low income homemakers who were not opinion leaders?

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[1] Everett M. Rogers. Diffusion of Innovations (New York: The Free Press of Glencoe, 1962), p. 16.

[2] Irene Beavers, "The Disadvantaged," Journal of Cooperative Extension, III (Winter 1965), p. 237.

[3] Minnie M. Brown and C. Paul Marsh, "Extension and Poverty, "Journal of Cooperative Extension, III (Fall 1965), p. 163.

3. Did opinion leaders among low income homemakers have a higher socioeconomic status than low income homemakers who were not opinion leaders?

4. Did opinion leaders among the low income homemakers make more extensive use of mass media than low income homemakers who were not opinion leaders?

5. Did opinion leaders among low income homemakers have a higher income than low income homemakers who were not opinion leaders?

6. Were opinion leaders among low income homemakers older than low income homemakers who were not opinion leaders?

7. Did opinion leaders among low income homemakers seek advice and information from the same personal sources (kin, neighbors, professionals or other) as low income homemakers who were not opinion leaders?

8. Did opinion leaders live within the immediate neighborhood?

9. Was there a relationship between the age, education and income of the homemakers and their personal sources of information and use of mass media?

Procedures for the Study

Population and Sample:

The initial target population of this study was the low income homemakers who were participating in the expanded food and nutrition program in Ohio. Sixteen counties had been in the program since its inception in November 1968.

The procedure for selecting the sample for this study was of a multi-stage nature. In phase one, a random sample of one county was drawn from the 16 counties that had been in the program since its inception. From this sample, geographic areas in the county were identified and a stratified random sample of low income homemakers was drawn from each geographic area. The sampling unit was the low income homemaker. The geographic area was further stratified by the number of aides working with low income homemakers in the EFNEP program.

The total population in the Hamilton County expanded Food and Nutrition program was 295 homemakers. The sample size was 150 homemakers. The 295 homemakers were stratified into four areas of the county. The number of cases drawn from each stratum was based on the number of cases in each of the four strata in relation to the total population and size sample.

The sampling unit for phase two of the study was the total population of the opinion leaders identified in phase one of the study. Only 30 were identified.

Design:

This study was descriptive in nature. It described the characteristics of low income homemakers as they related to: education, socioeconomic status, sources of advice and information, income, age, and residence. It also compared the opinion leaders with non-opinion leaders.

Data to be Collected:

The data collected were based on the research that had been published relative to opinion leadership in other studies. Much of this was oriented toward personal and social characteristics of the middle class. Yet, the research implied opinion leaders were found in all social systems and implications were that the characteristics might be the same for all classes.

The data sought included:

1. Age - at last birthday.
2. Formal Education - Highest grade completed
3. Annual Income - Included sources of income.
4. Racial origin
5. Marital status
6. Number of marriages
7. Who lives with the homemaker
8. Mass media sources of information - included frequency use of: books, magazines, newspapers, radio and television programs.
9. Socioeconomic status - as measured on a socioeconomic status scale that was developed.
10. Opinion leader identification - based on 10 hypothetical situations that sought first choice of person from whom they requested advice and information. Additional information about who they were, what they did, and where they lived was requested. (Examples of Questions)
11. Self-designation opinion leader identification - A six-item scale was constructed, based on Rogers six-item questions for self-identification.

Instruments:

After reviewing some social-status scales, it was deemed essential that an instrument be constructed for use in this study. The idea was gleaned from Chapin's "Social status scale."[4] Several persons were interviewed who had worked closely with low income homemakers. A 19-item scale was constructed and pretested with a group of 10 homemakers in cincinnati. An analysis was made of the results. No items were dropped, because all those interviewed did not have the same items. Two more items were added.

The standard deviation was calculated and all those falling within the standard deviation were given a score of one and those above were given a score of two. The items with a score of two were: colored television, electric blender, electric mixer, and electric skillet. None fell below the standard deviation.

A standard deviation of the socioeconomic scale was calculated for both the homemakers and opinion leaders and then the two were averaged. The number to be included below the standard deviation and those above was calculated. Six socioeconomic groupings were developed, based on income and material possessions. They were:

Low income - low material possessions
Low income - medium material possessions
Low income - high material possessions
High income - low material possessions
High income - medium material possessions
High income - high material possessions

A questionnaire was constructed that incorporated the data to be collected and instruments to be used. It was to be used in both phases of the study:

Phase I: With low income homemakers to identify opinion leaders.

Phase II: With identified opinion leaders to identify their personal and social characteristics.

The interview schedule was pretested by two aides with ten homemakers in the expanded Food and Nutrition Program in Hamilton County. A conference was held with these trained interviewers to discuss problems of administration of the schedule and recommended changes. Surprisingly, the only recommended changes were the addition of two items to part III of the questionnaire which was the socioeconomic scale that was developed and pretested for the study. The review of the completed questionnaires with the interviewers convinced the writer to make no revisions except adding telephone and washingmachine to part III, which was the list of material possessions.

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[4] Delbert C. Miller, Handbook of Research Design and Social Measurement (New York: David McKay Company, Inc., 1964), pp. 114-115.

How data were collected:

Ten nutrition aides who were employed by the extension service in Hamilton County were the interviewers for the study. One prerequisite was that they had been employed for at least three months as aides. The reason they were chosen to interview the homemakers was the fact they had already established rapport, and it was felt the respondents would cooperate more extensively.

A manual of instructions for interviewers was developed and interviewers were trained. Each aide was asked to make three interviews and then another conference was held with each aide before completing the remaining interviews.

Each aide was asked to interview from 10-23 families. The number was based on the number of homemakers in the stratum in proportion to the sample which was explained earlier. Each schedule was reviewed for incompleted questions or questionable responses. The interviewers were asked to follow up on those uncompleted schedules. One hundred thirty-one schedules were completed and returned.

After Phase I was completed, the interview schedules were prepared for the computer according to a code book that had been developed earlier for computer reporting.

A sociometric tabulation form was constructed to use in giving a total picture of all the Homemakers' responses for choices. The chooser (homemaker) and chosen (opinion leader) were identified. Those persons named two times or more by persons were considered to be opinion leaders.

The questionnaire was revised slightly for Phase II of the study so that the questions would be applicable to men, as well as women.

Thirty influentials were identified and 19 of these were interviewed by aides. The remaining 11 received a mailed questionnaire. The professionals identified were contacted by this method.

Note there was a difference between the percentage of response of the Homemakers (87%) and the opinion leaders (67%).

Hypotheses:

Related literature research provided the basis for the following hypotheses:

1. Opinion leaders identified by the low income homemakers attained a significantly higher educational level than low income homemakers who were not opinion leaders.

2. Opinion leaders identified by the low income homemakers were significantly older than the low income homemakers who were not opinion leaders.

3. Opinion leaders identified by the low income homemakers had a significantly higher socioeconomic status than the low income homemakers who were not opinion leaders.

4. Opinion leaders identified by the low income homemakers made a significantly greater use of mass media than the low income homemakers who were not opinion leaders.

5. Opinion leaders identified by the low incomehomemakers had a significantly higher income than the low income homemakers who were not opinion leaders.

6. Opinion leaders identified by the low income homemakers sought advice and information from significantly different personal sources (kin, neighbors, professional or other) than the low income homemakers who were not opinion leaders.

Analysis of the study:

The study was analyzed:

I To identify opinion leaders through sociometric choice when identified two times or more

The tabulation form was shown earlier that gave a total picture of all the homemakers' responses for choices. Those persons named two times or more by persons were considered to be opinion leaders.

Whenever a group is sociometrically tested for choices, they are unevenly divided among the members of a group, regardless of size or kind. "The lion's share is distributed among a few. The majority get an average number of choices. The proportion of isolates is greater than the proportion of stars."[10]

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[10] J.L. Moreno, The Sociometry Reader (Glencoe, Illinois: The Free Press, 1960), p. 78.

Thirty persons were named in the study by two or more of the homemakers as sources of advice and information for the 10 hypothetical questions. Ten different persons were named whom the homemakers would contact for two or more questions. However, the majority said they would contact different persons for each question. Merton[11] found that leaders are generally monomorphic, i.e. different opinion leaders for different services. Rogers and Van ES[12] postulated that opinion leadership in traditional societies was more polymorphic than monomorphic, i.e. one leader who advised on more than one subject. Both kinds of leadership were evidenced in this study. Nevertheless, monomorphic was more predominant.

One person was named 24 times by different homemakers; a second was named 18 times.

On a single question, the largest number of different persons named was nine.

The study concurred with Moreno's philosophy that the majority get an average number of choices and the lion's share is distributed among a few.

II To identify opinion leaders through a self-designated technique by four or more items on the scale

The self-designating leadership scale was scored in the following manner:

1. During the past six months have you told another homemaker about something that will help her as a homemaker: Yes (1) No (0)
2. Compared with your friends, (a) are you more or (b) are you less likely to be asked ideas about homemaking? More (1) Less (0)

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[11] Elihu H. Katz and Paul F. Lazersfeld, Personal Influence: The Part Played by People in the Flow of Mass Communication (New York: Free Press, 1964), pp. 59-61.

[12] Everett M. Rogers and Jonannes C. Van Es, Opinion Leadership in Traditional and Columbian Peasant Communities (East Lansing, Michigan: Department of Communication, Michigan State University, 1964), p. 19.

3. Thinking back to the last time you talked with your friends about homemaking, (a) were you asked what you thought about it or (b) did you ask someone else? Was asked (1) asked someone else (0)

4. When you and your friends discuss ideas about housekeeping, what do you do? Mainly listen(0) try to get them to accept you ideas (1)

5. Which of these happens more often: (a) do you tell your neighbors about something that will help them as homemakers or (b) do they tell you about something that will help you as a homemaker? I tell them (1) They tell me (0)

6. Do you have the feeling that you are generally regarded by your friends and neighbors as a good source of advice about homemaking? Yes (1) No (0)

Those having scores of four or more points were considered as perceiving themselves to be opinion leaders. Conversely, those having a score lower than four points were assumed not to perceive themselves as opinion leaders. Thirty-seven percent of the homemakers self-designated themselves as opinion leaders.

III Through frequency distribution of age, level of education, level of income, level of socio-economic status, sources of information, and residence

An analysis was made of the education, age, and use of mass media by those homemakers who identified themselves as being leaders on the self-designated opinion leadership scale.

Fifty-seven percent of those designating themselves as opinion leaders were between the ages of 30 and 50.

As education increased, the percentage increased until 45 percent of those with an education of 10-12 grades designated themselves as leaders.

Forty-eight percent of those identifying themselves as leaders had an income ranging from $2,000 - $3,999.

The homemakers in the study who designated themselves as opinion leaders reported reading magazines as being the least source of advice and information and reading newspapers as their greatest source. More persons listened to the radio than watched television. The radio was the greatest daily source of information, but television was reported most as never being a source of information in this portion of the study.

An analysis was made of those responses made by the homemakers who named persons they would go to as a source of information in homemaking (response to the hypothetical situations). The homemakers did not make neighbors as their greatest source of advice and information but were inclined to name persons who lived more than five blocks away. Neither were relatives mentioned to a large extent: however, the relative named the most was the husband. The professional technical persons were mentioned the most.

IV Lastly, the study was analyzed for difference of groups by chi-square.

A comparison was made of the differences between the opinion leaders and homemakers as they related to selected variables--age, education, income, personal sources of information, socio-economic level and use of mass media.

For example, an analysis of the data pertaining to age indicated the largest number of both homemakers and the opinion leaders was between the ages of 30 and 59. The differences in frequencies were not significant at the .05 level when the chi-square statistic was applied. On the basis of the analysis of the data, the null hypothesis was accepted.

On the other hand, the data collected from the homemakers and opinion leaders as to educational level indicated 15 of the 20 opinion leaders had completed 10 or more years of formal education, whereas only 58 of the 131 homemakers had completed the same years of education. The differences in frequencies were significant at the .05 level when the chi-square statistic was applied to the data.

A comparison was made of the age, education, and income levels of the homemakers in this study with their personal sources of information and use of mass media as a source of information. This phase of the study was also analyzed for difference of groups by chi-square.

Summary

The speaker was asked to concentrate on process rather than results; consequently, very little time has been allocated to this area except as a means of illustrating a procedure. The results would require another lengthy presentation.

The study represented an attempt to learn whether or not opinion leadership existed among low income homemakers and, if so, to identify selected personal and social characteristics of those from whom low incomehomemakers sought advice and information in family. In review, you recall a sample of 150 homemakers was selected, and 30 opinion leaders were chosen. Major findings were reported. Conclusions, implications and recommendations were made, both as they related to the expanded food and nutrition program and recommendations for further study.

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WHAT CAN WE LEARN FROM EVALUATING AN EVALUATION?*

Can other people's evaluation experiences help us learn about the soundness of beliefs and assumptions about evaluation? We feel it can. Furthermore, federally funded projects provide a tremendous arena for testing commonly held beliefs and assumptions.

This paper looks at how one major federally funded "innovative" adult education program, Rural Family Development (RFD), was evaluated to learn more about evaluation. Although RFD was a University of Wisconsin-Extension program, we had no direct involvement with it or with its evaluation. Our paper is limited to information provided in official project reports.

Our purpose isn't to evaluate RFD or primarily to critique the evaluation that was done. Our probing focuses on the basic concepts and beliefs underlying the project's evaluation.

The overall evaluation strategy was decided in 1969 before newer ideas about evaluation had received much circulation. It's quite typical of many evaluation efforts that were made during the 1960s in the following respects:

1. Evaluation was contracted to research experts and basic decisions were made by them.
2. The internal evaluators provided numerical descriptions of results but made little or no effort to see that judgments were made using those results.
3. Objectives were the only framework used in organizing the evaluation.

Just as the RFD project is probably no more or no less successful than many other innovative projects, so the evaluation is probably no stronger and no weaker than most other evaluations that were made during the same period. In most cases hindsight is clearer than foresight.

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*Paper developed for the 1973 Adult Education Research Conference at Montreal, April 5-6, by Dr. Sara M. Steele and Dr. Laverne B. Forest, Department of Agricultural and Extension Education, and Division of Program & Staff Development, University of Wisconsin-Extension.

Before going further in our examination of the RFD evaluation activities, we will try to give you some background material on (1) the project itself, and (2) the evaluation procedures used.

An Overview of RFD and Its Evaluation

The RFD Project

The project was designed to test an integrated delivery system that might have many kinds of applications but particularly home-based continuing education for adults.[1] It combined educational television, individualized home-study instruction techniques, and personalized home-contact instruction. The RFD project applied this concept to helping disadvantaged rural adults build coping skills.

The ten objectives of the project were as follows:

1. Demonstrate the effectiveness of an integrated television, home study, home contact and visit program for rural Adult Basic Education (ABE) students.
2. Demonstrate the effectiveness of the role of mass media in rural ABE programs.
3. Create a viable television-based multimedia program useable in similar situations in other parts of the country.
4. Demonstrate the effectiveness of an interdisciplinary family and community oriented approach to rural ABE programs.
5. Involve large numbers of undereducated adults not now able or willing to participate in ABE programs.
6. Develop a program that will improve ABE instruction while maintaining the lowest possible cost per pupil.

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[1] The RFD Project, A Summary Report of the Development, Field Testing and Evaluation of a Multimedia Program in Continuing Education for Adults, the University of Wisconsin System (1972).

7. Assist in the development of skills that can lead to new careers for home-study aides and other staff members.

8. Demonstrate the involvement of disadvantaged individuals in the development and implementation of such a program.

9. Develop participant skills in the basic fields of communication and computation while improving the capability of the target audience to exercise citizenship responsibilities.

10. Develop participant skills from present proficiency toward eighth grade and twelfth grade equivalency achievement levels.

NOTE: These objectives appear in the final report only in the section indicating the external evaluators view of attainment.

The project was funded for three years; the first year was used for development, the second for implementation, and the third for evaluation. The total funding was $740,000, of which 64 percent was spent on development 21 percent on delivery, and 14 percent on research and development activities. Or, looking at the expenditures another way, 39.2 percent went into materials 26 percent into television, 17 percent into home visits, and 17 percent into other components. The actual demonstration phase that tested the system was conducted for a 20 week period during the winter and spring of 1970 in the WHA Madison viewing area with the target area identified as four rural counties in southcentral Wisconsin. The system used six major components: a weekly half-hour TV show; a wide array of information bulletins; personal contact in the form of weekly home visits; a weekly radio program; a monthly *ALMANAC* (newsletter) and *ACTION LINE*; and a toll free, 24-hour telephone service for answering questions and requests for materials.

During the demonstrations the project cost about $8,326 a week. This figure doesn't include such things as development of materials except for those done on a weekly basis, administration, etc.

Approximately one-quarter of the total adult audience in the project area viewed one or more of the television programs. Over 1,700 adults requested follow-up materials. *ACTION LINE* handled 1,641 inquiries. Over 11,000 bulletins were distributed.

The Evaluation

About 4 percent of the total budget, $27,500, was spent on evaluation. Most of the evaluation budget was spent in preparation and follow-up activities with only about $2,000 being categorized as costs during delivery, and $3,900 labeled as research and creation costs while the program was being conceptualized.

The evaluation activities included three types of personnel: (1) a project staff position with evaluation responsibilities which had a personnel change about a third of the way through, (2) personnel from a UW psychometrics laboratory who were labeled as an internal evaluation team even though they were internal to the University of Wisconsin system but weren't an integral part of the RFD program staff, and (3) an external evaluation team from a western university's research laboratory. Only the internal staff member was from the academic field of adult education. Although the views on evaluation of two professors of adult education were quoted in the newsletter to professionals, there was no indication that either of them or the RFD staff member actually influenced the design of the evaluation.

The U.S. Office of Education indicated that the psychometrics staff would be a credible source in evaluation and most of the decisions about the evaluation appear to have been made by that staff. They seemed to interpret their evaluation role as that of providing numerical data about the program. Little evidence exists to show that the project staff or the psychometric staff concentrated on the criteria and judgments necessary in utilizing that data. The final report indicates that the internal evaluators provided the following kinds of data: *results of a controlled experiment examining the* *effect of the home-visitor component of the programs; evaluations of television tapes and publications; telephone surveys of participants, the target population, and a random selection from the larger audience carried out by the Survey Research Laboratory; a termination survey report; and an evaluation of effectiveness of home visitors.*

The only area where RFD staff members seemed to be in charge of the evaluation was in the original *need assessment*. In carrying out this evaluation they first had the Survey Research Laboratory do a telephone survey and then involved potential clientele in a card-sort to identify areas of most perceived need.

The external evaluators (a team of five that included representatives from educational media, vocational education, economics, psychology, and education) summatively explored validation. They were asked to do the following:

1. Review the accomplishments of the project in design, field testing, and evaluation.
2. Assess the extent to which the project achieved its objectives.
3. Assess the extent to which data collection had been adequate to the requirements of the research.
4. Assess and make judgments about the design and execution of the internal research.
5. Relate cost to accomplishments.
6. Prepare a report that will be readily incorporated into the final project report.

The external evaluators spent several days in Wisconsin studying data and other materials and talking with participants, staff, and other University of Wisconsin faculty members. However, they didn't collect any additional numerical data. Nor did they systematically develop any specific criteria except to carry out their assignment of assessing the extent to which the project achieved its objectives.

Establishing Criteria for Analyzing the RFD Evaluation

We believe evaluation is a process by which judgments are formed by comparing evidence with criteria. In this instance the evidence was the information provided in the final report. We made many judgments as we read the report. But what criteria were we using? What criteria should we be using?

We decided we could use criteria drawn from one or more of the following sources:

1. The criteria customarily associated with the kind of evaluation approach used in the project.
2. Criteria suggested in more recent concepts of evaluation.
3. Criteria reflecting what we as individuals believe is valuable in evaluation.

We faced the question of whether it is fair to evaluate evaluation operationalizing one concept of evaluation, using criteria drawn from a different concept of evaluation. We decided it was fair and appropriate if we also evaluated the evaluation using the criteria usually associated with the operationalized concept. The literature on evaluation includes relatively few stated criteria, so we also decided it might be profitable to try to state the criteria we were applying in our instant judgments while studying the report. Therefore, we will present and discuss our judgments of the evaluation using a wide range of criteria.

Criteria Customarily Associated With the Type of Evaluation Used

Two types of criteria usually are associated with the kind of approach used in the evaluation of RFD. The first deals with the extent to which the evaluation centers on the objectives. The other deals with scientific criteria of validity, reliability, and objectivity.

Criterion I: Does the evaluation address itself to the attainment of the program objectives?

EVIDENCE

Internal Evaluation. The internal evaluation team concentrated their examination of results by comparing the data of 38 families who had worked with home visitors with the data of 29 families who hadn't been contacted by home visitors. Both groups came randomly from the same original list of low income families.

The report indicates that expected behavioral outcomes were used as a basis for developing a specially designed and validated test consisting of six subscales. They were also used as the basis for a self-assessment of how much was learned. Mean scores, standard deviations, and levels of significance were reported for the tests; the number of people indicating various amounts of learning were given in the final report. In neither case was the meaning of the findings discussed.

External Evaluation. The external evaluators judged the attainment of each objective (listed on pages 2 and 3) using five-point scales--five indicating a high degree of attainment. The objectives and their ratings were as follows:

Objective	Rating
1	3.0 - 3.5
2	3.5 - 4.0
3	3.5 - 4.0
4	3.0 - 3.5
5	4.0 - 4.5
6	1.0 - 1.5
7	3.5 - 4.0
8	3.0 - 3.5
9	2.0 - 2.5
10	1.0 - 1.5

Ratings on the attainment of the objectives were such that the external evaluators gave the project a global rating of 2.8 to 3.2 on a five-point scale.

JUDGMENT

Both the internal and external evaluators addressed themselves to the objectives but their approach to evaluating them was far from complete.

DISCUSSION

1. The internal evaluation considered only microlevel objectives (specific behavioral outcomes). It made no attempt to evaluate the program in terms of its program objectives. We feel the behavioral outcomes didn't adequately sample the program objectives. Therefore, by dealing only with behavioral outcomes the internal evaluators didn't adequately fulfill their responsibility related to the project objectives.
2. The internal evaluators dealt with group change rather than individual change. Mean scores on the tests were used rather than the number or percent of people making adequate amounts of gain on particular objectives. Analysis of individual gains is more appropriate in a program like the RFD program, which emphasized individual differences and participants who were free to pursue the particular parts that interested them. The traditional approach to analyzing the attainment of objectives is built on essentialistic approaches to education. It's less appropriate in programs that allow for participant selection of what is to be learned.

3. The internal evaluators presented no conclusions. They only reported findings. There's no evidence as to whether they or the project staff felt the specific outcomes had been met. We feel evaluation should include summative judgments indicating what the data mean.
4. The internal evaluation was built on the original plan for the program and didn't adjust when the program changed from basic reading and math skills to something called "life coping skills." Therefore, the data gathered wasn't particularly germane to the operationalized objectives. However, life coping skills weren't adequately described by the staff, and we are thus left with questions about what coping objectives received major attention in the program and whether or not the attention paid off.
5. The external evaluators were asked to form judgments rather than to do measurements. As a result they were evaluating in the way we believe the term should be used. However, some judgments lack supportive evidence because resources didn't permit gathering additional results data.
6. The external evaluators didn't communicate their framework for coping with the ten objectives (listed on pages 2 and 3) in coming up with an overall score. It's not clear whether the objectives were equally weighted or if some were weighted more heavily than others. In our judgment, the objectives shouldn't have been equally weighted. However, the weighting probably will vary with the perspectives of those involved.

Since the program was funded through Adult Basic Education monies, one perspective would hold that the project should be judged primarily on its attainment of the objectives relating specifically to adult basic education. If the weighting was heaviest on objectives 6, 9, and 10, there's very little evidence that the program was successful in providing ABE. Viewed from the perspective of those generally interested in adult education, objectives 1 and 3 probably are the most crucial. There's also little evidence that these objectives were met if the objectives are interpreted in terms of the unique interpretation that RFD staff members originally indicated.

Criterion 2: Is the quality of the measurement work that was done adequate for the data to be valid, reliable, and objective?

EVIDENCE

The external evaluators weren't seriously concerned by weaknesses in data handling.

JUDGMENT

The measurement work was valid in that it accurately represented what it set out to measure. However, we question its validity in measuring what it should have measured and its reliability from the standpoint of whether or not there was adequate consistent measurement to provide a profile of data on the aspects being examined.

DISCUSSION

1. What was done was done well. The psychometric staff applied their skills with scientific quality. Although

the data probably were valid measurements of what was measured, the data probably aren't valid measurements of the program in that they neither provided crucial information in terms of how well the project met its major objectives nor information relevant to the basic claims made for the program as an integrated delivery system.

2. Although a good deal of data was gathered and analyzed, very little of it provided two or three pieces of evidence on the same aspect. There is difficulty in getting sound data either on results or reactions in projects like this; therefore, consistency of data secured about the same aspect in two or more ways provides an important check on reliability.
3. We could nit-pick in the usual way and point out several potential flaws in the data handling, such as very low returns, lack of pretest data, or data from a control group having no contact with the program. However, in regard to challenging methodology procedures, most evaluations of evaluation get at, and most researchers are able to do, enough of that on their own. We will reserve our discussion for aspects of evaluation other than those usually involved in securing and analyzing data statistically. Good instruments and good design are of little value if they fail to explore the most crucial things.

Criteria Drawn From Newer Concepts of Evaluation

One set of criteria has been recently postulated for evaluating evaluation. In addition, other concepts can be phrased as criteria statements. We will first examine the RFD evaluation in terms of the criteria that the Phi Delta Kappa Committee suggest should be used in addition to the traditional scientific criteria when evaluating evaluation.[2]

Criterion 3: Is the evaluation relevant? Are the purposes of the evaluation served? Purposes usually include a list of evaluative questions to be answered, and relevance is determined by comparing each evaluative datum to the purposes to be met.

Criterion 4: Is the evaluation important? Information must be culled to eliminate or disregard the least important information and to highlight the most important information.

Criterion 5: Does the evaluation have sufficient scope? Information should include sufficient scope to be useful; i.e., not be too narrow.

There's no indication in the report of what the purpose of the evaluation was.

There was no indication of relevancy. The purpose of the evaluation wasn't stated nor was there any framework that indicated how the specific data were seen as addressing evaluative questions or purpose. Most of what was done was important, but a good deal of important data wasn't gathered. Although the scope was adequate to secure new funding, it was far from adequate for serving other purposes.

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[2] F. E. Peacock, Phi Delta Kappa National Study Committee on Evaluation. Educational Evaluation and Decision Making, (1971), pp. 28-30.

DISCUSSION

1. One way of judging relevancy is whether or not the evaluation provided information germane to the qualities emphasized in promotional pieces shared with professionals, such as integration of media, and uniqueness of approach. In our view it didn't. Each media component was treated separately. Although the effects of the home visitor were examined, as additive to the other components, no real test was made of the effects of an integrated system. In fact, no evidence is presented that the system really was integrated.

   It would have been useful to have flow charts and examples that showed whether or not the same content area reached the same individual through all three major components (*ALMANAC*, TV, and home visitor) within a close enough span for the three sources to be integrated. There's little evidence of how the three related to each other. There's no indication of how the three were supposed to be integrated. Questions such as the following aren't answered: Which was seen as the main means of education? Which were supporting? How did the others support the main media? If media shared responsibility equally, how did they relate to each other?

   The evaluation provides no information on the central question of whether integrated media are more effective than one medium used alone. Although it would have been difficult, we feel an experiment could have been designed to test for the effect of each medium, the comparative effect when all were integrated into a sequential operation, and the interaction of the media.

2. Another perspective of relevance is this: Does the evaluation answer the kinds of questions most germane to improving the program? A set of evaluative questions was posed in the introduction to the second year report. These questions are relevant to improving operationalizing of the fundamental concept. As far as we can discern, they weren't answered.

3. Since the program desired to have its TV tapes and other materials used by other adult basic education programs, another way of defining relevancy is whether or not it provided the information on effectiveness that other ABE programs wanted. In most instances, other programs would be more interested in the effectiveness of the TV units in producing results in terms of specific educational tasks. The evaluation didn't deal with this area.

4. The description of the relevancy criterion implies that the purpose and a selected number of questions germane to that purpose provide a central framework for evaluation. Plans for data are then developed so that it is very clear how each specific piece relates to purpose. We couldn't identify this kind of framework in the RFD evaluation. It's our belief that planning evaluation involves much more than designing research-like experiments. It involves the

development of a flowsheet that relates data to be gathered to the central data required in achieving the purpose of the evaluation.

5. We also believe that the resources expended on evaluation are underutilized if all they do is satisfy a funder. This is particularly negligent in such situations where a potential exists for contributing valuable information about programming through multiple media.
6. Much of the above discussion indicates that we rate this evaluation low in terms of the appropriateness of its scope.
7. By the importance criterion, most of the data included was important. It was important that the project examine need and that it evaluate the pilot tapes. It was important that it get some information on TV viewing and reaction. But the most important data wasn't included in the evaluation plan.
8. Scope, importance, and purpose are interrelated and should be carefully considered in the planning of evaluation.

Criterion 6: Is the evaluation credible? Those who are to use the information must trust the people who are providing it.

EVIDENCE

WHA-TV and the RFD director secured funding for new projects designed for the same audience and using a multimedia approach.

JUDGMENT

The evaluation was evidently very credible to the Office of Education. On the other hand, adult educators may not see a psychometric unit as a particularly credible source to make an evaluation plan for a total program as complex as RFD.

DISCUSSION

1. Some people stereotype the typical psychometrics unit as being expert in designing tests and only expert in that field. The RFD experience seems to bear out that stereotype. The psychometrics staff was extremely credible to us in terms of the paper and pencil tests developed, but they weren't credible in terms of the design (or lack of it) of the total evaluation project.
2. A comprehensive project like this needs an interdisciplinary team that can utilize not only the knowledge and skill of educational measurement but of sociology and other social sciences as well. Ideally, the evaluation should have been done by a unit made up of adult education researchers with special knowledge in evaluating programs for disadvantaged adults. Were there any such teams available that had well-established national reputations? If not, why?

Criterion 7: Was the evaluation timely? Evaluation should reach the decision maker at the time he needs it.

EVIDENCE

There's no evidence on this point other than the new funding. There's no evidence for example, as to whether the evaluation of the four pilot tapes actually was used in decisions about the tapes that were finally used.

JUDGMENT

Timeliness can be judged only in terms of the time span related to purpose. The project did secure additional funding. Whether its results were understood in time to be incorporated into Project 360, is not clear.

DISCUSSION

Two kinds of timeliness are relevant: (1) the timeliness of the evaluation that was done to perfect process, and (2) the timeliness of the availability of the results data.

Criterion 8: Was the evaluation pervasive? Did the information get to all who should know about the evaluation and use the information?

EVIDENCE

The RFD project put particular emphasis on getting information to people in innovative ways.

JUDGMENT

This is probably the best handled part of the whole project.

DISCUSSION

The final year report, however, provides a lesson. It may be extremely pervasive in terms of getting every conceivable bit of information to a reader. It is 1-1/2 inches thick. However, it's not pervasive in helping the reader get key information out of the report rapidly. In addition, it produces an image of acute fragmentation.

Criterion 9: Was the evaluation efficient? Evaluation should be efficient in producing information that meets the scientific and practical criteria listed earlier with a minimum drain upon resources and a minimum disruption of the program.

EVIDENCE

Considerable data were handled for the $27,000 expended, particularly in considering that subcontracts were made to three professional research units.

JUDGMENT

The evaluation seemed to be efficient in using its money resources even though they didn't result in as great a value as we would have desired. A systems approach probably would have resulted in greater efficiency for the evaluators and the reader.

DISCUSSION

1. There's no indication of a great deal of additional work--either data gathering or expert analysis--having been done in the third year. There's some indication that more time was spent on new proposal development than on making reflective analysis of the RFD experience.
2. Another connotation of efficiency that is getting considerable attention is that of cost comparison with other approaches.

> Could other evaluations have produced more value at the same cost? In our judgment, it's very probable that they could have.

In summary, then, how well did the old approach to evaluation compare to the new criteria? The key issue involved in regard to all of the practical and prudential criteria is, Did the evaluation have a purpose? If so, was it the best possible purpose? In being consistent with the play that the RFD project made to adult educators as RFD being a great improvement over the past and a great boon to adult education, we believe that it should have incorporated a testing of its claims as a major purpose of its evaluation. RFD materials are full of such statements as the following:

> "The basic premise of the mediated delivery system is that adults can be taught to read, write and compute through a system that presents information on how to cope with the pressing needs adults experience in their own lives."[3]
>
> "The goal of RFD is to provide the undereducated rural adult the life-coping skills necessary to get out of the poverty cycle."[4]
>
> "RFD will also be reporting in the coming months on a number of accomplishments that may lead to new approaches in ABE including the design of a broad scope, non-sequential curriculum system, a new concept of the role of the paraprofessional in ABE, a new design for the training of paraprofessionals and a new design system for loose leaf content units ... As we move to the evaluation stage we will learn if we succeeded." [5]
>
> "RFD is designed to permit many learners to deal with many problem solving relationships. In short, RFD is a process that encourages the learner to personally prescribe his own curriculum in order that he may become ready for daily living."[6]

Yet the evaluation has not centered on whether the project did in fact carry out the claims for it. As a result the evaluation isn't as credible, or as impressive as it might be in terms of relevance, scope, and importance. It's pervasive in that it is readily available to anyone interested, and the

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3. The RFD Project, Op. Cit., page 35.
4. Ibid.,page 3.
5. Ibid., page 11.
6. Ibid., page 12.

byword suggests that other professionals will now have to take up the task of "arriving at something that is true."

What happens if we take some of the key concepts from other contemporary views of evaluation and use them as criteria? How does this evaluation rate?

Criterion 10: Did the evaluation compress, condense, and finally accredit that which is being evaluated?[7]

EVIDENCE

The length of the internal evaluator's report and its lack of conclusions.

JUDGMENT

The internal evaluators didn't accept this criterion as their role and they didn't achieve it, either by accident or by design. A good deal more probably would have been accomplished if they had met this criterion.

Criterion 11: Did it identify "trade-offs" and examine them in reaching conclusions about programs?[8]

EVIDENCE

There's no evidence that trade-offs were considered and calculated.

JUDGMENT

Inadequate attention was given to evaluating the most major trade-off in the program--that of substituting life-coping skills for basic computation skills as the major emphasis of the program--and the most major trade-off in the evaluation--that of limiting the evaluation of effectiveness to the home visitor and in effect saying that total integration was not important.

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[7] Michael Scriven, Notes from AERA Workshop, *Alternative Concepts of Evaluation,* Portland, Oregon (October, 1972).

[8] Gene V. Glass, "Educational Product Evaluation: A Prototype Format Applied." *Educational Researcher, I.* (January, 1972), pp. 7-10.

DISCUSSION

Most real-life situations involve some major trade-offs. The decisions involved in those exchanges usually affect the outcomes of the program. Therefore, the wisdom of those decisions often need to be considered in understanding the effectiveness of a program.

Criterion 12: Did it adequately deal with the sequence of interrelated decisions that made up programming?[9]

EVIDENCE

Although some context, process, and results evaluation were done, there's no indication that an attempt was made to interrelate the three. No evidence of input evaluation exists. On the other hand, there's evidence that decisions made as a result of context evaluation (card-sorting of interests and needs) weren't considered in the results evaluation. Although fourteen key areas were identified in need assessment, this list doesn't appear very related to the areas used by the psychometrics lab.

JUDGMENT

The evaluation didn't appear to deal adequately with interrelatedness of program decisions. As a result it did not adapt to the changed focus of the program.

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9. Phi Delta Kappa National Study Committee on Evaluation, Op. Cit., pp. 79-84; 215-238.

DISCUSSION

1. A project that purports to be based on needs should use those needs as a basis for evaluation.

2. The needs study seemed to be used primarily for switching from basic communication and computation skills to a smorgasbord of interesting areas. That decision had some major consequences in the results of the program.

   a. It made the project less useable to traditional ABE.

   b. It destroyed the uniqueness of the program. Home Economics Extension had for some time been using all of the media used in RFD in family oriented programs. There's no evidence that RFD did a better job in integrating those media than does the county Extension home economist.

3. An essential element in program evaluation is the evaluation of the consistency of decisions. Evaluating input decisions is an important element in ensuring that the project will accomplish what it sets out to accomplish. There's no evidence this kind of evaluation was done. It could have evaluated the degree of integration that was planned, and determined whether sufficient concentration was being given to any particular coping area for there to be some hope for sizeable gain.

4. Process evaluation should give considerable attention to whether or not the planned input and integration actually is occurring. It keeps things on track. This type of evaluation didn't appear to be done in this

project. Various processes were examined but the effectiveness of process in carrying out planning decisions seems to have been ignored.

Criterion 13: Did it improve decision making?

EVIDENCE

There's little evidence the RFD evaluation was designed for this purpose. There's some evidence that findings did result in certain decisions, but little evidence as to whether the evaluation was adequately designed to deal with the decisions in which they were used.

JUDGMENT

The RFD evaluation may have resulted in faulty decisions rather than improving decision making. If the decision situation had been adequately analyzed in advance, the evaluation may have been more useful.

DISCUSSION

In the three instances where evaluation appeared to trigger decision--first, the switch from the basic skills to coping skills; second, the switch of the role of TV from education to motivation; and third, the use of the TV news format--the evidence provided in the evaluation doesn't seem to be sound enough to support the decision that was made and there is insufficient material to uphold the decisions in the results evaluation.

Criteria We Were Using in Our Instant Judgment of the RFD Evaluation

It's hard to know where the last section stops and this one begins.

Certainly our thinking about evaluation has been colored by our acceptance of many of the ideas advanced in the past few years. Since we believe that evaluation includes judgments, one important criterion deals with the quality of those judgments.

Criterion 14: Were the judgments accurate and well-founded?

EVIDENCE

The internal evaluation provided evidence but no judgment. The external evaluation provided judgment but no evidence.

JUDGMENT

The internal evaluators made no judgments. The work of the external evaluators was entirely that of making judgments. At times, there appeared to be inadequate evidence to support the judgment made. Although they made some effort to define objectives in terms of criteria, greater refinement was needed.

The next two criteria provided different approaches to key judgments that were made earlier.

Criterion 15: Did the evaluation deal with the most important questions?

EVIDENCE

The evaluation dealt with few specific questions.

JUDGMENT

No, it did not deal with the aspect of an integrated delivery system. It did not test the claims made for the program. It did not examine the results in terms of need, either as generally expressed or in terms of whether the clientele felt that it met their needs. The internal evaluation did not deal with cost comparisons. The external evaluation made some attempt to, but did not, integrate the discussion sufficiently with the rest of the evaluation.

Criterion 16: Was the evaluation useful?

EVIDENCE

There's very little evidence that the evaluation was very useful to the program or to those who will be trying to learn about programming from the experiences of the program.

JUDGMENT

We didn't find the RFD evaluation particularly useful.

DISCUSSION

1. Use, like beauty, is in the eye of the beholder. Evaluation can be useful in a variety of ways. We feel evaluation is most useful when it helps improve present and future programs. The RFD evaluation didn't seem either to improve the RFD program as it was being implemented or to give us many ideas about how adult education can be improved in the future.
2. Another concept of use is the extent to which evaluation is useful in managing the programming operation. There's little indication that it played this role.
3. Evaluation isn't something to be done because someone requires it or because curriculum courses teach it as the final step. It's something to be done when and if the value provided by it is greater than the resources

invested in it; i.e., whether its usefulness exceeds its costs.

A quite different kind of criteria that we've been proposing for programs and that we should try out in this instance is as follows:

Criterion 17: Does the evaluation compare well with other evaluations?

EVIDENCE

Study of several other evaluations carried out during the same period of time.

JUDGMENT

The RFD evaluation did fully as well, or better than most other evaluations that have operationalized the basic concept of evaluation prevalent in the 1950s and 1960s.

DISCUSSION

1. It's one thing to compare performance to an ideal standard. It's another to compare it with "track records" built up in similar situations. How does that which is being evaluated compare with the best that has gone before it? Or with the average of the kinds of performance that has gone before it? We find the RFD evaluation is very typical of evaluations that operationalize the concept of evaluation holding the stage during the early 1960s Unfortunately, too few evaluations have as yet been carried out using ideas from the 1970s so that there is a basis of comparison.
2. Could we have done better? Probably not. It's no easy matter dealing with the complexities of a dynamic innovative program that has outside requirements and

many opportunities and needs for evaluation. We might have done better in some areas and worse on others. We certainly couldn't have done better in 1969, because our understanding of evaluation hadn't progressed any farther at that time than had the understandings of those people who carried out the RFD evaluation.

Forming an Overall Judgment

The evaluation was examined in terms of seventeen criteria. It rated very well on some, such as criterion number 8. It rated moderately well on some and poorly on others. What overall judgment would one make? Should the seventeen criteria be equally scored and a composite score built? Or are some more important than others?

The criteria were of different types. Some dealt with the quality of the work; others with what the work contributed that was of value. We believe that the most important criteria are those dealing with the contribution of the evaluation--criterion statements 3, 4, 13, 14, and 15. An evaluation that does not stack up well in terms of relevance, importance, usefulness, and contribution to key questions, is not of much value regardless of how well it was done. In our judgment, the RFD evaluation failed because it didn't address itself to an important enough purpose. The program and the field of adult education were shortchanged because evaluation was limited to providing results data to a funder.

Conclusions and Implications

Although the RFD evaluation adequately carried out its approach to evaluation fairly well, the approach itself is inadequate.

Ideas such as the following must be added to both the theoretical construct and the real-life beliefs about evaluation before a measurement approach to evaluation will reach its optimum value.

1. *Program evaluation must be useful.* It must be present- and future-oriented. It should cover several uses. To the extent possible, it should do the following:

    a. It should be useful in the operation and improvement of the program.
    b. It should be useful to the participants and to the programmers as well as, or instead of, outsiders.
    c. In situations where programs purport to be making major contributions to the understanding of processes of adult education, as RFD did, it should be of use to other educators.

2. *Program evaluation should address itself to fundamental questions of accomplishment and value.* In addition to examining whether specific objectives are attained, program evaluation should also endeavor to examine more basic questions such as the following:

    a. Was the need that originated the program actually satisfied?
        (1) If the program was addressed to a problem, what happened to that problem?
        (2) If the program was built to meet needs of individuals, were those individuals satisfied that their needs had been met?
    b. Were the major claims made for the program adequately examined and tested?
    c. Was the program as effective and efficient a means of meeting the need or purpose as could be devised at the present time? How did it compare with other ways of doing the same thing?
    d. Were there any major harms or benefits associated with the program?
    e. Did it produce enough of value to be worth its cost?

w. *Program evaluation is a system and should be treated as such.*

    a. In program evaluation our concern is primarily with the effect of the program components in producing results. Although in a research style approach the program components are usually thought of as independent variables and the results as the dependent variables, we are concerned in what the results tell us about the independent variables rather than in how the independent variables explain the results. An evaluation that does not go beyond the results and relate those results to the program falls short of its responsibility as program evaluation.

b. Program evaluation involves a series of interrelated decisions and activities in the same way that a program does. Reports of evaluation should make the nature and sequence of these decisions and activities clear. This involves much more than simply presenting the decisions involved in setting up an experimental design.

4. *Program evaluation must be able to compress, condense, and accurately interpret data in relation to the purposes of the evaluation.* It's not enough just to provide data.

a. Adequate attention must be given to criteria and to judgment as well as to the handling of evidence.

b. Evidence and criteria should be clearly organized in terms of the judgments that are to be made. The judgments are determined by the purpose of the evaluation. Usually, the purpose can be translated into a set of questions that must be answered or decisions that must be made. Judgments, criteria, and evidence should be tested against, and organized under those questions and/or decisions to ensure that the evaluation has sufficient relevance, scope, and importance.

c. Programs may be evaluated on several characteristics. Part of compression and condensation involves a weighting of the relative importance of those judgments. Are they equal? Or are some more crucial than others?

c. Those activities which stop with the provision of data are activities of program description rather than program evaluation. Program evaluation must also incorporate those activities which assign value to the informaiton.

Analyzing evaluation that has been done in terms of its value and use instead of, or in addition to, the proficiency of its research methodology can contribute a good deal to our understanding of evaluation. However, to evaluate evaluation one needs to establish the kinds of judgments that need to be made and the kinds of criteria that need to be used. We have identified and used a few criteria. They express what we see as being valuable in an evaluation. They are open to a good deal of argument. Most criteria are subject to challenge just as most judgments are. Evaluation can be viewed as the means of establishing the parameters and guidelines for debating worth. This concept is a far cry from the traditional concept of establishing scientifically pure proof that results have been attained. But scientifically processed information is not useable unless one is able to debate and defend the values involved in using it.

Unfortunately, this is a first attempt at evaluating evaluation. We have not explored the criteria that should be applied to evaluation sufficiently to be willing to argue that these are the only criteria or that these are the most important ones. However, we do maintain that the traditional ones are inadequate. We haven't really dealt with whether the kinds of judgments we made are the most crucial ones. We've made several that seem valuable to us at this point in time. How valuable are they--and the criteria we've used--to you? Why are they or aren't they valuable? What do *you* believe constitutes good evaluation? How do *you* evaluate evaluation? We think we've given you some things to debate. We hope we've given you some things to think about.

THE DEVELOPMENT AND USE OF INSTRUMENTS TO ASSESS THE EFFECTIVENESS OF PARAPROFESSIONALS IN WORKING WITH LOW INCOME FAMILIES

A paper presented by Emilie Stuhlmiller
at the Adult Education Research Conference
Montreal, Canada
1973

Introduction

New and innovative social action programs necessitate the development of valid and reliable instruments in order to assess program effectiveness. The Expanded Nutrition Educatio Program (ENEP) which employs low income women (Cooperative Extension Aides) to teach a nutrition education program to indigent clientele, was one such program which required instruments to assess the effectiveness of aides in helping clientele to attain program objectives.

Reported in this paper is the development and use of three instruments capable of making assessments of aides in three areas: knowledge of teaching-learning principles and strategies in teaching families and youth, job persistence, and attitude toward the human service job of being an aide.

The research reported here was part of an ongoing evaluation research project being conducted by Dr. Helen Y. Nelson and Mrs. Bettie Lee Yerka, Department of Community Service Education and Cooperative Extension, Home Economics, New York State College of Human Ecology, Cornell University. In 1969 Nelson and Yerka initiated an exploratory research project designed to evaluate the effectiveness of aides working with low income families in New York State.

Objectives of The Study

The objectives for this study were as follows:

1. To construct, refine, and validate instruments which are capable of measuring progress of paraprofessionals:

   a) in knowledge and skill in working with low income families in a teaching situation;

b) relating to attitudes toward the job as an aide;

c) as to job persistence in becoming more employable and/or remaining employed as an aide.

2. To determine the reliability and item discrimination of these instruments.

3. To validate the three instruments with the criterion measure, based on the Extension Service, USDA, food recall.

4. To determine what characteristics of aides affect the quality of instruments and the criterion measure.

Description of the Sample

Extension home economists (agents) and Cooperative Extension Aides employed in fifteen counties and one site (Q) located in a large metropolitan city in New York State participated in one or more phases of the study. All of the participating units were suggested by State Extension ENEP Administration; participation was on a voluntary basis.

The main sample of counties consisted of eight counties who were involved in all aspects of the study. Eight additional counties or site were involved in one or more aspects of the study. In summary, three urban counties, one urban site, eight urban-rual counties, and four rural counties were involved in one or more aspects of the study. Twelve of the counties have been involved in the ENEP since 1969; four entered the program in 1970.

Data Regarding the Aides

Demographic data, describing the population of aides in the eight county main sample were obtained from employment application forms completed by the 103 aides when applying for the job. Information regarding length of time the aides had been employed, dates of employment and resignation, and employment on a part-time or full-time basis was checked using payroll and other records housed by Extension ENEP Administration at Cornell University.

During the period of the study (March, 1969 - June, 1971), fifteen per cent of the aides had been employed twelve months or less, forty per cent had been employed from thirteen through twenty-four months, and forty-five per cent had been employed over twenty-four months. The highest percentage of the aides (47 per cent) were from 30 to 44 years of age, 39 per cent were over 44 years of age, and 14 per cent were under 30 years of age. Approximately one half of the aides (55 per cent) were married, with the remainder being separated (18 per cent), divorced (14 per cent), or widowed (11 per cent). Two aides were single. Forty-five per cent of the women were heads of one-parent households and as such undoubtedly have the responsibility for financial support of themselves and their families.

The number of children ranged from none to ten, with the mean number 3.12 and the median 2.91. Sixty aides had three or more children. Most of the children were school age (6 to 18 years) with out of school (19 and over) next. There were fewer preschool children.

The educational attainment of the aides fell into three major categories. training beyond high school (30 per cent), completed high school or high school equivalency (28 per cent), and more than eighth grade but less than high school (28 per cent).

Most of the aides (57 per cent) in the study worked with adults only; twenty-three per cent worked with both adults and youth; six per cent worked with youth only and eleven per cent were supervisory aides. Sixty-one aides worked on a full-time basis (35 hours or more) and forty-two aides worked part-time (less than 30 hours a week).

Seventy-nine of the aides were classified as being employed by the end of June, 1971; with twenty-four aides leaving employment during the study period. Almost all of the aides had been previously employed before being hired as Cooperative Extension Aides. About half had held one to two previous jobs and thirty-six per cent had held from three to five jobs. Four aides reported not having been previously employed.

Development of the Instruments

The rationale for the focus of each particular instrument was as follows:

1. Interview-Achievement Test of Teaching-Learning Principles: Since the aide serves in a teaching role, she should have a knowledge of teaching-learning principles and strategies, and their application as a means of achieving the goals of the program. Ascertaining the extent of the aide's knowledge about teaching-learning principles and their application would be beneficial in determing what content regarding the teaching-learning process should be incorporated into in-service training of the aides.

2. Job Persistence Form: Since the program employed low income persons, part of the job experience could be considered as providing the aides with the opportunity to either learn behaviors that would cause them to be more valuable to the program or that would enhance their future employability in another position. It was thought that the aides, coming from low income populations, would need assistance in gaining

skills that would enhance or improve their employability.

3. Attitude Scale. Because attitudes can influence behavior, knowledge about how the aides feel toward their jobs could provide helpful feedback to professional and supervisory staff.

Considerations in selecting the kinds of instruments and procedures for collecting the data were influenced by the following:

1. It was felt that the aides should not have many additional records, forms, etc. to complete as they were already responsible for a number of records and reports as a routine part of their job.

2. There was concern at the beginning of the project that the aides might have limited reading and writing abilities, since they were recruited from low income populations. Hence instruments would need to be developed that would be within the writing and reading capabilities of the aides. It was also felt that the aides were more facile verbally than in writing, which suggested that the interview procedure would be a feasible way to ascertain the aide's knowledge of teaching-learning principles, rather than a paper and pencil test. Word (1968) found than an open-ended interview procedure, using a tape recorder, was a satisfactory procedure in obtaining data from aides in an Arkansas project.

3. Data would be obtained in several ways, on different aspects of the aides, from both aides and supervisory personnel.

4. It was desirable that the instruments be easy to score and not require time-consuming procedures to arrive at a score for each aide.

Interview-Achievement Test of Teaching-Learning Principles

As stated earlier, the purpose of this instrument was to assess the aide's knowledge and understanding of teaching-learning principles and strategies as applied to her work with individuals and groups. After observations were made of the initial in-service training programs in five counties in Spring, 1969, work began on the development of the interview schedule.

For content validity, an underlying grid of teaching-learning principles was developed, based upon a literature review in the field of adult learning, job training, home economics education, and training materials used in ENEP. Two faculty members in adult education and one member in the Department of Educational Psychology at Cornell Univerity were consulted as to the appropriateness of the content of the grid. Revisions were made to the grid based upon the suggestions of these experts.

The development of a standardized interview schedule which focused on the aide's knowledge of teaching-learning principles progressed from an open-ended form to a more structured schedule with checklists of possible responses and a scoring system for each teaching-learning principle. (See Appendix A for sample questions.) The procedure was similar to the one suggested by Lazarsfeld, as reported by Selltiz, et al., for developing a closed-question interview. Lazarsfeld suggested

> that the development of a closed-question interview schedule be preceded by more intensive, freer interviews with a subsample of the population in order to discover the range of probable responses, the dimensions that are seen as relevant, and the various interpretations that may be made of the question wording (1959:262).

Early versions of the interview schedule indicated that while the aides talked freely about their work, their global responses were difficult to categorize to reveal knowledge of teaching-learning principles. In part the early versions of the interview schedule helped the writer to become familiar with the aides' language, terminology, their procedures in planning lessons and approaches in working with clientele and to determine their reactions to the questions.

The first major pretest was made with fourteen aides in one county. It was found upon analysis that most of the aides gave approximately the same type of response to the questions and that the responses focused more on food preparation and nutrition practices than on knowledge, understanding, and application of teaching-learning principles. The open-ended responses did not permit ready categorization for a scoring system.

The second pretest version included a checklist of possible responses and a three point scoring system for most questions. The scoring system enabled the interviewer to mark a score for the question based upon the response given by the aide. Space was provided for the interviewer to write in additional comments, if needed to substantiate the score given. Difficulties arose in scoring this version becasue the decision to determine if the aide knew the teaching-learning principle had to be inferred from the aide's application-type response.

The interview schedule was revamped again, to focus more on teaching-learning concepts. Early versions of the interview schedule obtained information as to what the aides did in teaching families but did not directly pinpoint the aide's knowledge of teaching-learning. Inferences had to be made from her practice-oriented responses.

The final question format which evolved was one of asking the aide a cluster of two or three questions about the particular principle involved as follows:

1) the aide was asked if she did a particular procedure or not,

2) why she did it (a knowledge question), and

3) what or how she did it (an application question).

The three-point scoring system for each question or cluster of questions included the principle involved. More probes were added (each question had one probe question) and the checklist of possible answers was expanded to include a range of relevant responses. The sequence of the questions was arranged so the interview would be in the most logical order for the aides to respond to---going from the first contacts the aide made with the family, gaining the confidence of the homemaker, finding out the needs and prior experience and knowledge of the homemaker, planning the lesson and teaching, and ending with evaluation.

The following example illustrates the changing format of a question from Pretest 1, Pretest 2, to the final version. The aides are being asked about the principle of informing the homemaker about the progress she is making in learning the lesson content.

Pretest 1:

Do you let the homemaker know when she has done something well? What do you do? Could you give me an example?

Pretest 2:

As you work with a homemaker how do you let her know that you are happy with how she is coming along? (Probe: Are there any other ways?) (Check appropriate responses if aide mentions):

......1. Aide praises homemaker's efforts
......2. Aide tells homemaker about her progress
......3. Aide tries very hard for homemaker not to have a failure
......4. Other (describe) ....
....

(3) ..... Recognizes that for learning the homemaker needs to know about her progress (2 ways mentioned)
(2) ..... Some recognition
(1) ..... Little, if any, recognition

Final Interview: #38

Do you let the homemaker know how she is coming along with what you are telling (or teaching) her about food and nutrition?

..... yes ..... no

Why do you let the homemaker know how she is coming along? (Probe: Are there any other reasons why it helps a homemaker to know how she is doing?)

..... 1. The homemaker will be encouraged to continue with the program if she knows she is learning
..... 2. The homemaker will learn better when she knows about the progress she is making
..... 3. Other ....

In what ways do you let the homemaker know how she is doing or coming along?

..... 1. By telling her what progress she is making
..... 2. By praising her
..... 3. By asking her if she saved any money or if her family was pleased with what she did
..... 4. Other ....

Score: (3) ..... Aide realizes that learning is more effective when the homemaker knows how she is coming along
(2) ..... Some recognition on the part of the aide
(1) ..... Aide has little, if any, recognition that the homemaker needs to know about her progress

For the final interview used in upstate New York, twenty-four scoreable questions were developed plus five "ice-breaker" questions designed to obtain some background information from the aide, to put her at ease, and to re-emphasize that she would be talking about her job.

Data Collection

Eighty-nine usable interviews were obtained after interviewing ninety aides in the eight county main sample.[1]

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[1] One interview could not be used because of language problems.

The interviewing was done from March - May, 1970 by the writer and other persons associated with the Evaluation Research Project. Arrangements were made with the County Extension Agents for the scheduling of the interviews in the counties. The interviews were conducted during the day and were considered a part of the work time for which the aides were paid. Interviewing was usually done at the Extension headquarters or at another meeting place used by the county Cooperative Extension organization. The interviews lasted from an hour to an hour and a half, depending on how talkative the aides were.

The aides were told by the interviewers that the information would be confidential and would in no way affect their jobs. A majority of the interviews were taped. No names of the aides were included on the tapes. The aides did not seem to be adversely affected by the use of the tape recorder.

Comments from several Extension agents, with one exception, indicated that the aides did not seem to be unduly bothered by the interview situation. A few agents reported that the aides felt the "interview was long" and "a lot of work." Some of the aides found the questions hard to answer and made them do a "lot of thinking." Even though a concerted effort had been made to use as little educational jargon as possible, a few agents did question whether the terminology used affected the response.

Refined Interview Schedule

The interview schedule was later refined for use in a research project at Site Q in January, 1971. The refinement of this interview schedule was based upon analysis of the data gained from the eighty-nine interviews. As a result of separating clusters of questions and adding two new questions (and revising or altering the checklists of responses based upon the summary of responses from the upstate sample of aides), an interview schedule containing thirty-nine scoreable items was prepared. Twenty-six aides (primarily at Site Q) were interviewed with this schedule from January - June, 1971.

Job Persistence Form

The purpose of this form was to provide a way for supervisory personnel (Extension agents and supervisory aides) to observe, record, and rate behaviors by which an aide indicates her desire and intention to either remain employed or to become more employable. This instrument was not intended to provide a one-time performance rating, but rather a synthesis of the supervisor's observations of the aide as they worked together over a period of time.

This instrument was adapted and revised for use with adult aides from an observation-rating form devised by the project co-director for use with inner city youth (Dalrymple, et al., 1971). The format of the job persistence form was as an observation-rating device, with space provided for the supervisor to write comments (see sample in Appendix B).

Steps in the development of the job persistence included.

1. Rewriting the original items and adding other appropriate items based upon observations of the aides, conversations with Extension agents and aides, and ENEP State Administration staff; literature review of work motivation and behavior in industrial and labor psychology and new careers programs; and consultations with resource persons at Cornell University.

2. The adapted instrument was presented to a group of Extension agents who made several suggestions for revisions, based upon their actual field experience.

3. The instrument was revised again and used by two supervisory aides, in a nearby county not in the sample, as a part of work performance review for thirteen aides.

4. Following this, further revisions were made and a group of resource persons were asked if the items described in the form indicated behaviors which were pertinent to becoming employable or remaining employable; if other behaviors should be included; and if the accumulated score would be meaningful. Resource persons included three of the persons consulted in (1) above.

The final version of the job persistence form was prepared incorporating comments and suggestions received from the resource persons. The final form had fifteen items, thirteen of which were scored using a three point scoring system. The scoring scale was designed to divide the aides into three groups: those who performed at the top level, those who were in the middle, and those at the low or poor level.

Data Collection

Eleven Extension agents completed the forms for 140 aides employed in nine counties and Site Q. Eleven supervisory aides completed the form for 103 aides in nine counties. Extension agents and supervisory aides were asked to separately (and without consultation) complete the forms for all aides currently employed and for all interviewed aides[1] who had left employment. The full use of the forms as an anecdotal record was illustrated in the Site Q Research Project, where supervisory personnel made observations of the aides at several points in time, and indicated changes in behavior.

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[1] Aides who had been interviewed with the teaching-learning interview schedule.

Refined Version of the Job Persistence Form

Based upon a summary of the written comments by the Extension agents and supervisory aides who had completed the form, the job persistence form was refined (see sample item in Appendix B). One new item was added, related to the aide meriting the confidence of the supervisory staff. Several refinements were made in the scoring sections.

Development of the Attitude Scale

The purpose of this scale was to assess the attitudes of aides toward the job of being a Cooperative Extension Aide. The first step in the development of the Likert-type scale was the preparation of two open-ended questionnaires (sample questions are included in Appendix C) designed to elicit comments and statements regarding the job from the aides. Eleven aides in one county completed one questionnaire; fourteen aides in two counties completed the second questionnaire.

A table of specifications, containing eight categories, was prepared using as a model the one developed by Jacoby (1966) with certain modifications based upon readings in industrial psychology, review of several attitude toward work scales, and knowledge of the ENEP and the work of the aides.

An item pool of 178 statements for the eight categories of the table of specifications was developed from various sources including a review of several attitude toward work scales, summarized statements from the two questionnaires, and observations and comments obtained while interviewing the aides in early 1970.

The statements were then reviewed by a panel of six judges. The judges were three Extension home economists, the director of the Human Services Training Project at the College of Human Ecology, and two graduate students who had prior associations with paraprofessionals. The judges were asked to review the statements and to indicate which ones indicated a positive orientation to the job and those that revealed a negative orientation. Any statements that were not pertinent to the job of being an Extension Aide were to be crossed out. The judges were also to indicate those statements which were uncertain as to the direction.

The statements for which four or more of the judges were in agreement as to the direction (either positive or negative) were selected for the scale. This procedure yielded 108 items, which were arranged in a Likert-type format, with four options:

strongly agree, mildly agree, mildly disagree, and strongly disagree. The undecided response, used frequently in Likert scales, was omitted as it was thought that aides might select this option rather than make the agree or disagree choice.

Data Collection

There was no other group of aides available to give the scale to in order to reduce the number of items and to gain experience in how best to administer the scale. Therefore one of the Extension agents in one of the main sample counties was asked if she and the aides would be willing to complete the scale on a trial run basis, and to make suggestions, comments, etc., which would be useful in administering the scale to aides in the other counties. Suggestions from this experience were utilized in revising or altering the statements and in the written directions sent to the Extension agents.

Copies of the attitude scales, directions for administration, and cover letters were sent to agents in thirteen additional counties and Site Q. For ease in administering the scale, it was divided into two parts. part 1 contained fifty-eight items and part 2 fifty items. Because of the length of the scale, agents were given the option of administering the scale at one or two in-service training sessions. A total of 161 aides completed the scale.

The final attitude scales were developed using a procedure suggested by Edwards (1957). After the scales are scored, the scores are arranged in descending order, with the top 25 per cent of the group and the bottom 25 per cent selected. (There were forty scores in each group.) To select statements which discriminated between the high and low scorers, the Edwards t procedure was used. The attitude scale is then composed of statements with the largest t values. Two scales were developed from the 89 statements which had t values of 1.75 and over. The forty-two item scale had six statements for each of the seven categories of the table of specifications.[1] (Sample statements for each category are included in Appendix C.)

It was felt that the forty-two item scale, called Feelings Toward Aide Jobs, was a generalizeable scale which might be applicable for aides in other human services paraprofessional jobs. The twenty-four item scale, called Feelings Toward Cooperative Extension Aide Jobs, contains statements relating to the specific job of being a Cooperative Extension Aide.

Other Data Collected

Aides in the eight county main sample were asked to complete the Rotter I-E Scale. This was done as a part of construct validation for the job persistence form. In addition, employment application records and family record, part 1 and 2, were collected. These family records[1] are completed by the aides for the families who are enrolled in ENEP and are part of the Extension Service, USDA evaluation program. The Extension agents were also asked for an indication of potential supervisory ability of the aides, by naming those aides who might be capable of being promoted to supervisory aide positions, should the opportunity arise.

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[1] One category was deleted from the table of specifications.

Aides who had been interviewed with the interview schedule and who had left employment were sent followup letters containing the attitude scale and/or the Rotter I-E Scale. Twnety aides in the eight counties were contacted; response was received from thirteen aides.

Quality of the Instruments Developed

The next part of this paper deals with findings related to the quality of the three instruments developed in this study. This includes information regarding reliability, item discrimination, and validity.

Reliability of the Instruments

Reliability of an instrument is concerned with the consistency or dependability of measurment over time. Approximately the same ordering of individuals should result from repeated administrations of the instrument, assuming similar conditions.

The Hoyt-Stunkard analysis of variance procedure (1952) for internal consistency was used, utilizing a computer program developed in the Department of Community Service Education. This procedure was used because the items have variable scoring. The estimate of the reliability coefficient is obtained by this formula:

$$r_{tt} = \frac{\text{M.S. Among Individuals} - \text{M. S. Residual (Interaction of Items and Individuals)}}{\text{M. S. Among Individuals}}$$

Hoyt and Stunkard write:

> It should be noted that the numerator provides the estimate of the "true" variance. It is the proportion that this "true" variance among individuals bears to the variance of the obtained scores among individuals that represents the coefficient of reliability (1952:757).

---

[1] Family record 1 provides information about the family; Family record 2 is the food recall and contains a nutrition question.

The following table summarizes the reliability coefficients of the instruments developed in the study and the Rotter I-E Scale.

Instrument	N	Reliability coefficient
Upstate interview schedule (24 items)	39	.79
Refined interview schedule (39 items)	26	.91
Attitude scale (42 items)	161	.82
Attitude scale (24 items)	161	.67
Job persistence form scored by Extension agents (13 items)	140	.88
Job persistence form scored by supervisory aides	103	.89
Rotter I-E Scale (23 items)	113	.64

Item Discrimination

Ahman and Glock (1971) recommend the examining of each item in an instrument as to its power to discriminate between those who receive high scores and those who receive low scores. An item discrimination computer program, developed in the Department of Community Service Education, was used to obtain the indices of discriminating power for the two interview schedules and the job persistence forms.

Item discrimination values for the upstate interview schedule ranged from +.10 to .67. Ahman and Glock, citing Ebel, suggest that for a classroom achievement test more than fifty per cent of the items should have D values above +.40, forty per cent or less of the items should have values between +.40 and +.20, and less than ten per cent should have values between +.20 and zero. The distribution of items following this recommendations is given in the following table.

Recommended proportion of items	Recommended distribution for 24-item schedule	Distribution of items on schedule
50% of items +.41 or greater	12	5
40% of items +.20 to +.40	10	13
10% of items below +.20	2	6
TOTAL	24	24

Earlier it was stated that the interview schedule was refined following administration to 89 aides. This was done to increase both the reliability coefficient of .79 and the discrimination indices of the items below +.20. Item discrimination indices for the refined interview schedule ranged from -.07 to +.71. The following table summarizes the distribution following the Ahman and Glock recommendation.

Recommended proportion of items	Recommended distribution for 39-item schedule	Distribution of items on schedule
50% of items +.41 or or greater	20	14
40% of items +.20 to +.40	15	19
10% of items below +.20	4	6

Since a small number of aides (26) was involved in this item discrimination analysis, in a pretest situation primarily, it might be well to consider these D values as tentative indicators that most of the questions have at least satisfactory discriminating power to differentiate between high and low scorers.

Job Persistence Form

Discrimination values for the job persistence form were also obtained using the computer program for item discrimination. Since both the Extension agents and the supervising aides had been asked to score the forms independently, item discrimination indices were obtained for each scoring. For both groups of scorers, three items had discrimination values of +.20 and below. One question had a value from +.20 to .40. Nine items had discrimination values from +.41 to .80.

Validity

One of the objectives of this study was to validate the newly developed instruments. Validity is considered to be of primary importance by measurement experts, and is defined by Ebel as the "accuracy with which the test measures what it is intended to measure" (1965:388-389). According to Cronbach three types of validity have been discerned:

> Criterion-related [predictive] validation compares test scores, or predictions made from them, with an external variable [criterion] considered to provide a direct measure of the characteristic or behavior in question.
>
> Content validity is evaluated by showing how well the content of the test samples the class of situations or subject matter about which conclusions are to be drawn.
>
> Construct validity is evaluated by investigating what psychological qualities a test measures; i.e. by determining the degree to which certain explanatory concepts or constructs account for performance on the test (1971:444).

Content Validity

Content validity of the three instruments was based upon a search of appropriate literature concerning attitudes toward work, teaching-learning principles, and general employment practices. References in adult education, education, and home economics education were reviewed as well as attitude scales developed by others, and texts in industrial and labor relations relating to industrial psychology and work. Experts in adult education, educational psychology, manpower, industrial and labor relations research, and psychology were consulted. Extension agent field staff, supervisory aides, and professionals either working with or having had prior associations with programs utilizing paraprofessionals were also consulted. The advice of these persons as the instruments were developed aided in the validation of their content.

Criterion Validity

The criterion measure used in the Evaluation Project was based on Family record, part 2, the food recall. Despite limitations, the food recall record does attempt to measure the basic aim of the program: improved nutritional status of the client. The widespread availability of these recalls and the fact that the aides complete them as a routine part of their work, further enhanced the desirability of their use as the criterion measure for the Evaluation Project.

The food recalls were collected by Evaluation Project[1] staff from county records. Whenever available, five pairs of recalls were collected for each aide. It was found that generally recalls were not available for the supervisory aides and some of the former aides. For a variety of reasons, it was not always possible to collect five pairs of recalls per aide, as had been originally suggested by a statistician in the Department of Education. Recalls were collected for 65 of the 103 aides in the eight county main sample.

The recalls were scored by a method devised and validated by Loomis (1973). Each record was scored as follows: 1) practice, the 24-hour recall of foods actually consumed by the homemaker or other client, 2) level, a retranslation of the practice score to a nutritional level based upon the basic four food groups, 3) knowledge, based upon the response by the homemaker to the question, "What foods and drink do you think people need to be healthy?", and 4) a combined practice and knowledge score.

For statistical analyses only the scores from the second set of recalls were used. Each aide received a mean score for practice, level, knowledge, and practice + knowledge for the recalls collected for that aide. The mean score was used to provide a more equitable score for the aides who did not have five pairs of recalls. Based upon correlation data, the relationships between scores from the instruments and means scores from the food recall criterion measure were spotty and weak. Low correlation coefficients, all under .30, mostly positive but a few in the negative direction, were obtained. One reason for the low correlations may be due to what Nunnally (1967:126-128) calls a "restriction of range." There was little room for improvement on the food recall measure on the part of the homemaker.

Construct Validity

According to Cronbach (1970:142) "construct validation is an analysis of the meaning of test scores in terms of psychological concepts or 'constructs'." The construct under interpretation in this study is effectiveness of aides in helping families to achieve the goals of ENEP.

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[1] A pair of recalls here refers to the initial recall for a family and a subsequent one, usually but not always the second recall taken six months later.

Two procedures of several suggested by Cronbach and Meehl (1967) were pertinent for this study---group differences and correlation matrices and factor analysis.

Group differences investigated in this study were the mean scores of two groupings of aides for each of the following variables, thought to explain or account for differences between high and low scorers on the instruments. 1) education, 2) supervisory ability (either actual or estimated) vs. considered not capable of being a supervisory aide, 3) employed vs. former aide, 4) full-time vs. part-time aide, 5) length of time employed as an aide, 6) previous employment as an aide, 7) number of jobs held previously, 8) Rotter I-E score, internal vs. external score, 9) food recall criterion measure.

The results of hypotheses testing indicated that no one variable accounted for group differences for all instruments. Supervisory ability and employment status as an employed aide were variables that explained differences between high and low scorers for the interview schedule, the 24-item attitude scale, and the job persistence form as scored by the supervisory aides. The internal score for the Rotter I-E Scale accounted for differences in mean scores of two groupings of aides for the two attitude scales. Variables which did not account for any differences between mean scores of two groupings of aides were education, length of time employed as an aide, previous employment as an aide, and number of jobs held previously.

A correlation matrix, using scores from the job persistence form and the Rotter I-E Scale, was another method used to acertain construct validity. According to Cronbach and Meehl (1967:252), "if two tests are presumed to measure the same construct, a correlation between them is predicted." The Rotter I-E Scale, a measure of generalized expectancy developed by Rotter (1966), was selected as an outside test to help validate the job persistence form. It was thought that aides who had low scores on the Rotter Scale--indicating a more internal orientation, a belief that through one's own efforts that one succeeds (or remains employable)--would receive high scores on the job persistence form. Therefore a fairly high negative correlation was expected. However the actual correlation between the total scores of the two scales was -.02. Thus the Rotter Scale could not be considered as a way of validating the job persistence form. Persistence on the job is explained by other than the internal-external dimension.

Factor analyses of the 42-item scale, the 66-item scale (combining the 42-item and the 24-item scales) did not reveal any factors or constructs and so factor analysis was not a validating procedure.

It was thought that the limited range of scores for the food recall measure and the lack of criterion scores for some of the aides (particularly the former aides and all of the supervisory aides) influenced the outcomes of the criterion and construct validation. Improved criterion measures for aides working with families and for supervisory aides would be needed in order to fully assess the relationships between the instruments and program outcome measure.

Summary

Instruments with satisfactory reliability coefficients and item discrimination indices were developed. Content validity was ascertained through literature review and consultations with experts. The instruments had limited criterion and construct validity.

Recommendations included the following: the development of an improved food recall criterion measure (as suggested by Synectics Corporation, Munger, 1971) to ascertain client progress; the development of a criterion measure for the supervisory aides; the use of other methods for observing the actual aide-homemaker interaction (such as rating scales, case studies, and participant observers) to determine what elements and conditions are essential to help bring about client change; and the obtaining of information about other situational influences which affect client and program outcome such as the number and kinds of problems families have, the family's ability to change, the Extension agents' and supervisory aides' abilities and competencies, and other state and local conditions.

As was stated earlier, this research study was part of an on-going evaluation project on the effectiveness of paraprofessionals in working with low-income families, under the direction of Dr. Helen Y. Nelson and Mrs. Bettie Lee Yerka, New York State College of Human Ecology, Cornell University. Loomis (1973) developed and field tested a food and nutrition knowledge test based upon ENEP goals for homemakers. Engelbrecht (1972) conducted a follow-up study of aides and homemakers in the eight county main sample to obtain information about homemaker attitudes and behaviors regarding the program and aides. At Site Q, a more controlled research effort is underway, with both experimental and control groups of homemakers, to further assess aide-client interaction and change.

Further information about this instrument development study may be obtained from "The Development and Use of Instruments to Assess the Effectiveness of Paraprofessionals in Working with Low Income Families," an unpublished Ph.D. dissertation, Cornell University, Ithaca, N. Y., 1973, by Emilie Mary Stuhlmiller.

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continued from page 23:

Work

13. I would rather have a job where I don't have to make decisions.
26. I would not be willing to go beyond what the job requires, no matter what else the family needs.

Rights and Responsibilities of Employees

11. I don't think anyone should expect the aides to come up very often with new suggestions for working with families.
32. The least important thing I look for in a job is to be treated as a person.

APPENDIX A - Interview Schedule of Teaching-Learning Principles

One principle from the grid of teaching-learning principles:

> Adults have many motivations for learning. A teacher can be more effective when he recognizes these motivations.

Question tapping this statment from upstate interview schedule:

#42: Why do you think some homemakers are ready for learning and what you have to tell and show them (or teach them)?
(Probe: can you tell me more about that?)

_____1. They want to learn and improve their homemaking skills.
_____2. They want to have healthier families; are interested in welfare of their families
_____3. They are interested in having someone come to their house (social needs)
_____4. The homemakers may want help to solve some of their problems
_____5. They want to please the aide
_____6. Other ______________________________

Score: (3) _____Aide is aware of some of the motivations that homemakers have for learning
(2) _____Some recognition stated
(1) _____Little, if any, recognition of motivations for learning

Question tapping this same statement from the refined interview schedule:

#37: Why do you think some homemakers are ready for learning what you have to teach them?
(Probe: Can you tell me more about that?)

_____1. They want to learn and improve their homemaking skills; want to learn new things
_____2. They want to have healthier families; are interested in welfare of their families; want to please family members
_____3. They are interested in having someone come to their home (social needs)
_____4. The homemakers may want help to solve some of their problems; want to improve their situations
_____5. Have had successful learning experiences and therefore want to continue
_____6. Other ______________________________

Score: same as given for upstate interview schedule.

APPENDIX B: Job Persistence Form

Sample item from version used in upstate New York:

#12. The aide's interest and enthusiasm for this job as she verbalizes them are characterized by (check one):

Please write down in this column any comments, other behavior noted, to substantiate rating given, if needed.

Score

3 ___(1) A feeling of satisfaction that she is teaching families about better nutrition and food buying practices; is concerned for families and the help that she can give them

2 ___(2) A moderate feeling of satisfaction that she is teaching families about nutrition and food buying practices; not too concerned that she can help families

1 ___(1) A lack of feeling of accomplishment in the job; has little, if any, concern that she can help families

Same item from refined version of the form:

#13. The aide's interest and enthusiasm for this job as she verbalizes them are characterized by (check one):

_____(1) A feeling of satisfaction that she is teaching clientele about better nutrition and food buying practices; feels most of the time that she is helping clientele

_____(2) A moderate feeling of satisfaction that she is teaching clientele about nutrition and food buying practices; feels that she sometimes is able to help clientele

_____(3) A lack of feeling of accomplishment in the job; feels that she has little, if any, ability to help clientele

APPENDIX C: Attitude Scale

Selected questions from two attitude development questionnaires:

Questionnaire 1

1. What are some of the things you like the most about your job?
7. In what ways do you expect your supervisor (or Extension Home Economist) to help you?

Questionnaire 2

1. What kinds of satisfaction does the aide job give you? What satisfactions do you expect the job to give you?
4. How important is nutrition knowledge for the families you are working with? For yourself?

Selected statements from 42-item attitude scale for each category of the table of specifications:

Supervision and Supervisors

33. It means a lot to me when my supervisor encourages me to try out my ideas on the job.
4. I like having a job where there is a chance to be a friend of my supervisor.

Relationships with Families (Clientele)

34. After a while I think that I will get tired of listening to the problems and complaints that families have.
5. No matter how unimportant a request from a family may seem to me, it is important to them that I follow through.

Continued Learning and Training on the Job

14. Since I've been a homemaker for a while, I don't see why we need to have all this training.
8. I feel that our beginning training was inadequate even for starting the aide job.

Relationships with Co-workers

3. I find that most of the exchanging of ideas with the other is a waste of time.
22. I would rather have a job where there is less sharing of ideas and less opportunity to help your co-workers.

Inner Satisfaction of Working as an Aide

6. On this job I am not encouraged to try out my own way of doing things.
25. There are too few occasions on this job when I can use my own judgment in deciding how to go about doing my work.

continued on page 20.

THE INFLUENCE OF DIFFERENT BEHAVIORAL APPROACHES ON JOB EFFECTIVENESS WITHIN A UNIVERSITY EXTENSION DIVISION

James L. Whitfield
University of Missouri

THE INFLUENCE OF DIFFERENT BEHAVIORAL APPROACHES ON JOB EFFECTIVENESS WITHIN A UNIVERSITY EXTENSION DIVISION*

This study was concerned with the manner in which University Extension personnel view human nature and the effect these views have on the fulfillment of organizational goals. More specifically, the main purpose of this study was to investigate the association between the assumptions an organizational member makes about people in general and the individual member's job effectiveness.

INTRODUCTION

The correct explanation of human behavior has never been an easy task to accomplish. There appears to be evidence, however, that a leader, manager or administrator with a genuine understanding of human behavior will be more effective in the performance of his roles. Managers, leaders, administrators, and social scientists who create and study change situations find that organizational changes involve multiple sets of complex variables whose identity, interaction,and impact vary from situation to situation. Variables concerned with human behavior are important examples of complex factors influencing the effectiveness of an organization independent of whether it is an industrial or educational organization.

Douglas McGregor[1] points out that our present knowledge indicates there are a number of important characteristics of individuals and the work environment that conventional management practice does not take into account. The variables that most managers take into account are necessary, but they are not sufficient to fully explain organized human effort. Since these additional variables are not recognized, the relationships among them are unknown to managers.

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*Based on the authors unpublished Ph.D dissertation (Florida State University, 1972) by the above title. He is Assistant Professor of Extension Education and Area Director of University-Wide Extension, University of Missouri. This paper was presented at the Adult Education Research Conference, Montreal, April 6, 1973.

[1] Douglas M. McGregor, Leadership and Motivation, ed. by Warren G. Bennis and Edgar Schein, with collaboration of Caroline McGregor (Cambridge, Massachusetts: The M.I.T. Press, 1966) p. 202.

It is generally agreed today that there is no one right way for all organizations to be managed. However, the fit between management's assumptions about people in general and the actual characteristics of organizational members becomes of utmost importance. The manager's assumptions about people will not only determine to some degree the form of organization to be utilized in fulfilling a task, but also his management strategy.

Extension activities at any level involves the art and skill of working with people to accomplish the objectives of the agency. Since human nature is not always predictable or rational an Extension educator must consider the practical application of the behavioral sciences if he is to be effective in performing educational roles.

Generally, many of the previous studies concerning working with and through people have failed to adequately deal with the association between leader behavior and the achievement of organizational goals. This is not to infer that previous studies have made no contribution to the behavioral science area. The findings have pointed out many of the problems that still exist as attempts are made to predict and control human behavior.

While many of the investigations relating to leadership, management, and administration have been conducted in business and industry, there appears to be much common agreement about the universality of these functions irregardless of the organization. Many of the ideas for this research study have been borrowed from past studies involving business and industrial organizations.

BASES FOR STUDY VARIABLE SELECTION

Behavioral Science is the study of human behavior in a "scientific" manner. Behavioral science studies behavior, specifically human behavior in response to various stimuli-internal and mental, or external and physical. Behavioral science suggests that man's actions are a result and a composite of many variables.

Much of the conceptical framework for this study is drawn from Douglas McGregor's studies.[1] He has indicated that people generally have seemed accustomed to being directed, manipulated, and controlled in organizations. McGregor further stated that people have the capacity to exercise self control and must be allowed the opportunity to develop their potential for effectiveness as an organizational member.

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[1] Douglas M. McGregor, The Human Side of Enterprise (New York: McGraw-Hill Company, 1960.)

McGregor categorized two different sets of assumptions about human nature and human behavior which were designated as Theory X and Theory Y. These two sets of assumptions form the conceptual foundation for the two major variables of this study. These sets of assumptions are:

Theory X

1. The average human being has an inherent dislike for work and will avoid it if he can.

2. Because of this human characteristic of dislike of work, most people must be coerced, controlled, directed, threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives

3. The average human being prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and wants security above all.

Additional beliefs - less explicit, but widespread.

1. The average man is by nature indolent - he works as little as possible.

2. He lacks ambition, dislikes responsibility, prefers to be led.

3. He is inherently self-centered, indifferent to organizational needs.

4. He is by nature resistant to change.

5. He is gullible, not very bright, the ready dupe of the charlatan and the demagogue.

Theory Y

1. The expenditure of physical and mental effort in work is as natural as play or rest.

2. External control & the threat of punishment are not the only means for bringing about effort toward organizational objectives. Man will exercise self-direction and self-control in the service of objectives to which he is committed.

3. Commitment to objectives is a function of the rewards associated with their achievement.

4. The average human being learns, under proper conditions, not only to accept but to seek responsibility.

5. The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity in the solution of organizational problems is widely, not narrowly, distributed in the population.

6. Under conditions of modern industrial life, the intellectual potentialities of the average human being are only partially utilized.

The set of assumptions a manager holds about people in general will affect the managerial strategy used. Theory Y would indicate a strategy which would indicate a process primarily of creating opportunities, releasing potential, removing obstacles, encouraging growth, and providing guidance. Theory X places exclusive reliance on external control of human behavior rather than self-control.

STUDY VARIABLES

The main dependent study variable selected was job effectiveness of University of Missouri Extension field staff members. Job effectiveness ratings, an indication of the member's contribution to University Extension Division's goals, was the variable measurement. Each member's performance was evaluated by the appropriate administrator. Standards for evaluation were based primarily on individual plans of work and position descriptions.

The primary independent study variable selected was the Theory X-Theory Y orientation (attitude) of organizational members. Supposedly, the assumptions made about people in general would affect the strategy selected by a leader, manager, or administrator in influencing or controlling human behavior. It would seem important to investigate the assumptions made about people by University Extension professionals, since their main role is to effectively influence changes in human behavior.

It would seem evident that individual human behavior will affect the successful attainment of organizational goals. It is also clear that attitude alone is not the sole determinant of human behavior. For this reason, an additional independent variable was included in this research. The measure for this variable was also developed in relation to McGregor's Theory X-Theory Y formulation and was designated the Theory X- Theory Y behavior variable.

Five intervening variables were included to control for compounding effects that might be involved. Tenure in the organization, position in the organization, academic background, age, and sex were selected.

The following null hypotheses were formulated to guide the investigations. There is no significant association -

1. Between Theory X - Theory Y attitude and job effectiveness.

2. Between X-Y attitude and X-Y behavior.

3. Between X-Y behavior and job effectiveness.

4. Between the combined effects of X-Y attitude and behavior with job effectiveness.

5. Between job effectiveness and each of the following:

    a. Tenure in the organization.
    b. Position in the organization
    c. Academic background.
    d. Age.
    e. Sex.

If any of the five control variables were significantly associated with job effectiveness, the following hypotheses would be used.

6. No association between X-Y attitudes and each of the following:

    a. Tenure in organization.
    b. Position in organization.
    c. Academic background.
    d. Age.
    e. Sex.

7. No association between X-Y behavior and each of the following:

    a. Tenure in the organization.
    b. Position in the organization.
    c. Academic background.
    d. Age.
    e. Sex.

METHODOLOGY

The study population included all current members of the University of Missouri Extension Division field staff who were on the job prior to January 1, 1969. Job effectiveness ratings were not available for persons joining the field staff after that date. The study population totaled 326 persons.

University of Missouri Extension Division records and a mail questionnaire were used to gather information for this research. Individual job effectiveness ratings were secured from University records and other variable measurements were acquired through the use of the mail questionnaire.

The mail questionnaire was divided into three sections. The first section was designed to measure the Theory X- Theory Y behavior of the population by asking for responses to the questions about a case problem. The next section was formulated to collect personal and situational information which would be used as measures for the control variables. An attitude instrument made up the last section of the questionnaire and was included to measure the Theory X- Theory Y attitudes of the respondents.

SECTION I OF INSTRUMENT

The instrument included a case problem about which the study population were asked a series of questions. The purpose of this section was to arrive at a measure of the behavior (Theory X or Theory Y) which would be elicited by individual responses of organizational members.

The three questions asked about the case problem were:

1. If you (the Area Director) were to ask five questions, what information would you wish to get? From whom? Please rank these questions in order of importance.

2. How do you explain the situation described in the case study?

3. What action would you take if you were the Area Director for Extension?

Responses to the case study questions were scored by a panel of four judges familiar with McGregor's Theory X - Theory Y formulation. These judges had prior training and practice sessions before the actual scoring of returns was initiated.

Judges scored the responses to each question on a scale from zero to ten. A score toward the zero end of the continuum indicated a tendency toward a Theory X - type behavior while a score falling near ten suggested a Theory Y-type behavior.

Evidence of judge reliability was established using the analysis of variance statistical method. Ratios were calculated for variances among questions, judges and individuals. The variance due to the interaction of judges and questions ratioed to the variance of individuals was .004299. This ratio was accepted as sufficient evidence of the consistency of judge's scoring.

SECTION II OF INSTRUMENT

This section of the questionnaire furnished measures of the five selected control variables.

SECTION III OF INSTRUMENT

The final section of the instrument was designed to measure the Theory X-Theory Y attitude of organizational members. Item statements were developed and the study population responded on a Likert-type scale.

An example of an item statement included in the attitude section of the questionnaire is as follows:

1. The more a person feels free to set his own work goals, the greater his productivity tends to be.

:____________	:__________	:____________	:____________	:______________
Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree

A respondent checking strongly agree was given a score of five while one checking strongly disagree was given a score of one. Those individuals scoring higher were considered to be more Theory Y - oriented.

A total of thirty item statements were included in the final instrument. These items were selected based on the pre-test results.

Selected statements designed to elicit a response indicating a Theory X-Theory Y orientation were compiled and submitted to the author's research committee. Suggestions for improvement were incorporated. Forty-seven attitude statements, randomly ordered, were included in the initial instrument. Some statements were favorable, some unfavorable, toward the attitude object. Graduate students in Adult Education and a sample of Florida Extension workers formed the pre-test group.

The information drawn from the pre-test was analyzed using the Weight Questionnaire Analysis Computer Program at Florida State University. Item statements showing low or negative correlations were elminated. Only those items showing a correlation of .30 or higher with total scores were retained. Based on this analysis, 30 item statements were included in the final attitude instrument.

The research instrument was mailed to 326 University of Missouri Extension field staff members on July 23, 1970. A total of [illegible] questionnaires were received for a 90.8 percent return. Ten of these instruments were too incomplete to be usable.

In order to establish a reliability measure for the attitude instrument, the split-half method was employed. The reliability coefficient of the attitude section of the final instrument was calculated to be .75.

DATA ANALYSES

TABLE 1. --Distribution of respondents by Theory X - Theory Y attitude item scores and categories of job effectiveness rating.

		Theory X - Theory Y Attitude Item Scores				
		Low	Medium Low	Medium High	High	
Category	Number	Per cent	Per cent	Per cent	Per cent	Mean Item Score
1	126	7.9	26.2	43.7	22.2	3.75
2	130	17.7	29.2	38.5	14.6	3.62
3 and 4	30	26.7	33.3	23.3	16.7	3.57
Total	286	14.3	28.3	39.2	18.2	3.69

$X^2 = 13.0096$ df= 6 $p < .05$

Data used in testing this hypothesis are presented in Table 1 It was found that only 7.9 per cent of respondents rated in the number 1 (excellent) job effectiveness rating category scored low on the X - Y attitude measure, while 26.7 per cent of respondents rated in the 3 (adequate) and 4 (unsatisfactory) rating categories scored low on the attitude measure.

Approximately 66 per cent of the respondents rated in the category 1 (excellent) of job effectiveness scored medium high or higher on the attitude instrument while only 40 per cent of respondents rated 3 (adequate) or 4 (unsatisfactory) scored medium high or higher on the attitude instrument. The mean item score for respondents rating number 1 was 3.75 while the mean for those rating 3 or 4 was 3.57. The overall mean X - Y attitude item score was 3.69.

The chi-square value of 13.0096 was significant at the .05 level of confidence.

TABLE 2. --Distribution of respondents by Theory X - Theory Y attitude item scores and Theory X - Theory Y behavior scores

		Theory X - Theory Y Behavior Scores				
Theory X - Theory Y Attitude Item Score	N	Very Low Per cent	Low Per cent	Medium Per cent	High Per cent	Very High Per cent
Low	39	28.2	17.9	20.5	20.5	12.9
Medium Low	82	12.2	19.5	36.6	20.7	11.0
Medium High	113	10.6	23.9	30.9	21.3	13.3
High	52	7.7	17.3	19.2	28.9	26.9
Total	286	13.0	20.6	29.0	22.4	15.0

$X^2 = 21.72$ df= 12 $p < .05$

Data concerning the association between Theory X - Theory Y attitude and behavior are presented in Table 2. These data indicate that 28.2 per cent of respondents scoring low on X - Y attitude also scored very low on the X - Y behavior measurement. However, only 7.7 per cent of those scoring high on the attitude measurement scored very low on the behavior measurement. Twenty-seven per cent of the respondents scored high or very high on both variable measurements while only 12.9 per cent scoring low on the X - Y attitude measurement scored very high on the X - Y behavior variable measurement.

TABLE 3. -- Distribution of respondents by Theory X - Theory Y behavior scores and job effectiveness ratings

		Theory X - Theory Y Behavior Scores					
		Very Low	Low	Medium	High	Very High	
Rating Category	Number	Per cent	Per cent	Per cent	Per cent	Per cent	Mean Score
1	126	4.8	12.7	33.3	26.2	23.0	6.375
2	130	14.6	26.9	29.2	20.0	9.3	5.795
3 and 4	30	40.0	23.3	20.0	13.3	3.4	5.276
Total	286	12.9	20.3	30.1	22.0	14.7	5.994

$X^2 = 44.3$ df= 8 $p < .001$

Of those respondents rated in category....
1 (excellent), only 17.5 per cent scored low or very low on the behavior variable score while 63.3 per cent of respondents rated 3 (adequate) or 4 (unsatisfactory) also scored low or very low on the Theory X - Theory Y behavior variable measurement.

Statistically, a chi-square value of 44.3 was obtained which is significant at the .001 level of confidence.

A tabulation of respondents by X - Y behavior scores and job effectiveness ratings is presented in Table 3. Almost two-thirds (63.3 per cent) of respondents rated in the rating category 3 (adequate) or 4 (unsatisfactory) also scored low to verv low on the X - Y behavior measurement. Conversely, approximately 50 per cent of the respondents rated 1 scored high to very high on the behavior variable measurement.

TABLE 4. -- Multiple correlation, multiple linear regression, and analysis of variance statistical results involving the three major study variables.

Population Statistic	X - Y Attitude and Job Effectiveness	X - Y Behavior and Job Effectiveness	X - Y Attitude, Behavior and Job Effectiveness
Multiple Correlation Coefficient	0.1790	0.3451	0.3619
Coefficient of Determination	0.0320	0.1191	0.1310
Analysis of Variance for Multiple Linear Regression			
Degrees of Freedom Due to Regression	1	1	2
Degrees of Freedom Due to Deviation About Regression	284	284	283
Sum of Squares Due to Regression	4.31668	16.04497	17.65129
Mean Squares	4.31668	16.04497	8.82565
F-Value	9.39830**	38.38450***	21.32790***
Regression Coefficient	0.01180	0.02117	0.00736 A 0.01974 B
Computed t - Value	3.06567**	6.19552***	1.97003* A 5.67664***B

*p $<$ .05

**p $<$ .01

***p $<$ .001

A = Attitude

B = Behavior

The two independent variables were analyzed separately with the dependent variable before considering all three variables simultaneously. Table 4 contains the statistical analysis of the association among the three major study variables.

The multiple correlation coefficient was 0.1790 when analyzing the association between X - Y attitude and job effectiveness rating. An application of the F-test produced an F-value of 9.3983 which was significant at the .01 level of confidence. The student's t-test of significance indicated whether the calculated regression coefficient was significantly different from 0. The t-value of 3.06567 was significant at the .01 level of confidence.

The multiple correlation coefficient calculated when analyzing the linear association between X - Y behavior scores and job effectiveness is considerably higher at 0.3451. An application of the analysis of variance test shows a calculated F-value of 38.3845. This value indicates a highly significant association, beyond the .001 level of confidence, between these two variables. The student's t-test was used to determine if the regression coefficient was significantly different from zero. A calculated t-value of 6.19552 was also highly significant beyond the .001 level.

As the associations of the two independent variables to the dependent variable were analyzed, additional data became available. The addition of the X - Y attitude variable only increased the multiple correlation coefficient from 0.3451 to 0.3619 and the coefficient of determination from 0.1191 to 0.1310 as seen in Table 4. Again, using the analysis of variance technique to test the hypothesis that the combined effect of the variables exercises no influence on the dependent variable, a calculated F - value of 21.3279 was significant at the .001 level. Students t-tests of the X - Y attitude - job effectiveness association showed a t-value of 1.970025 which was significant at the .05 level. The t-value calculated on the X - Y behavior - job effectiveness association was 5.67664 which was highly significant at the .001 level of confidence.

TABLE 5. -- Distribution of respondents by tenure in the organization and job effectiveness rating

		Tenure, Years				
		0-5	6-10	11-15	16-25	26-over
Rating Category	Number	Per cent	Per cent	Per cent	Per cent	Per cent
1	126	12.7	16.7	32.5	33.4	4.7
2	130	26.2	14.6	21.5	27.7	10.0
3 and 4	30	30.0	26.7	16.7	23.3	3.3
Total	286	20.6	16.8	25.9	29.7	7.0

$X^2 = 17.59$ df= 8 $p < .05$

A large majority of the organizational members rated in the number 1 category had completed over 10 years of service in the organization. Approximately 71 per cent of those rated number 1 (excellent) had over 11 years of tenure. By way of comparison, 56.7 per cent of respondents rated 3 (adequate) or 4 (unsatisfactory) had completed 10 years or less with the organization. The average years of tenure in the organization were 13.8.

A calculated chi-square value of 17.59 was significant at the .05 level of confidence. The hypothesis was rejected. The tenure variable was included with the major independent study variables for further analyses.

STUDY FINDINGS

Each of the null hypotheses involving the four major study variables Theory X - Theory Y attitude and behavior and job effectiveness of organizational members were rejected. The findings are summarized as follows:

1. A significant association was discovered between X-Y attitude scores and job effectiveness ratings. Those receiving a high attitude score (tending toward a Theory Y orientation) on the X-Y attitude measurement also tended to rate in a higher job rating category.

2. Empirical evidence indicates a significant association exists between Theory X - Y attitude and behavior scores of organizational members. Respondents receiving higher X-Y attitude scores also tended to score higher on the X-Y behavior measurement.

3. Respondents with behavior scores falling toward the Y end of an X - Y continuum tended to consistently rate in a higher job effectiveness rating category than those scoring toward the X end. The calculated chi-square value regarding the association of these two variables was 44.3 which was highly significant beyond the .001 level of confidence.

4. The two independent study variables, Theory X - Theory Y attitude and behavior, were combined and regressed on the dependent variable, job effectiveness. The combined effect of X-Y attitudes and behavior on job effectiveness indicated the existence of a highly significant association. Both F-values and t-values were significant beyond the .001 level of confidence.

Of the five control variables, only tenure in the organization was significantly associated with job effectiveness. The other four control variables were eliminated from further study.

Since tenure was significantly associated with job effectiveness, it was deemed necessary to investigate the possible association between tenure and X-Y attitude and behavior for any confounding that might exist. There was not sufficient evidence to support the existence of an significant association between tenure and either X-Y attitude or behavior.

THE OPEN UNIVERSITY IN BRITAIN

presented to

The Adult Education Research Conference
held in
Montreal from April 4 to 6, 1973.

by

R. E. Y. Wickett,
Assistant Professor of Adult Education,
The University of Manitoba.

PAPER DELIVERED TO THE ADULT EDUCATION RESEARCH CONFERENCE, MONTREAL - April 4 - 6, 1973.

This session is designed to provide up to date information on developments at the Open University. It is based on information and data gathered during a recent visit to the Open University and materials collected over the past few years from and about that institution. I hope that you will feel free to discuss not only areas to which I refer but any other aspects of the Open University.

The post-natal investigation of the Open University in Britain is now well under-way. The establishment of a research institute, the Institute of Educational Technology, and the accumulation of information from its early years have made analysis possible. A limited amount of data is now available for the examination of the student community; curriculum; the role of media in the institution; the effectiveness of materials, of summer residential sessions, and of regional centres; and the staff of the institution.

It should be pointed out that much of the data that is available is of limited scope, and this is in part due to the short life span of the institution. It is also due in part to the problems involved in accumulating data about a very complex and geographically large operation.

The fears of the staff of the consequences of a change in government have subsided for the most part. The University was conceived with political overtones by a Labour Government, and the Conservative opposition was considerable. Since assuming office, the Conservatives have tightened budgets and applied pressure for the admission of younger students. However, it has not attempted to destroy the institution by cutting drastically its financial support as was originally feared.

The early aspirations of developing a working man's university as envisaged in the "Glasgow" speech of Harold Wilson in 1963 have clearly not been realized. Although information which we have about the student body is not as informative as it should be, it is clear that the Open University has not attracted many people from unskilled and semi-skilled groups. There are a number of reasons for this, and I shall refer to them in a section of the paper which deals with the student community.

One other point that I would like to make as a part of this general introduction is that the Open University is quite clearly a British institution arising within a particular social context. It has been greatly influenced by British society, by the British view of a university and by the staff which fought very hard to achieve "academic respectability" in the British university system. It is important to remember the differences between the British university system and our own when examining material and data which come from that source.

STUDENTS:

The total number of students is approximately 44,000 this academic year (1973). The lower age limit for entry was set at 21 years of age. The vast majority of students are between the ages of 21 and 45 years, although most of the applicants fall in the range of 21 to 28 years of age.

The age limitation may be altered within the near future. Under considerable governmental pressure, the Open University admitted 500 students who were between the ages of 18 and 21 years. This was done on an experimental basis. The Open University agreed to admit these students and to evaluate their performance and impact before a decision would be made to make a policy change.

It seems clear to me that students entering directly from secondary level of education* will perform well academically.

If the University wishes to retain its role as provider of opportunities to persons who have "missed" them previously, it will have to avoid simply becoming another link in the regular university chain. It will need to cling steadfastly to its very reasonable age requirement. It must advocate the provision of other opportunities for those groups who are currently being neglected. It must not become the buffer institution which expands or contracts according to the number of persons who have received GCE certificates in any given year.

Approximately two thirds of all students are male, the ratio of male to female students is established on the basis of applications. The total number of applications from members of both sexes is found. Then the percentages of applications is used to establish the percentages allocation of places. This must be integrated with other percentage allocation on the basis of Faculty, regional allocations, and special groups in the community.

The regional allocations are based on combinations of the population of the region and the percentages of total applications coming from the particular region. This appears to favour slightly London and the south-east region when one examines the final allocation of places.

There is also an attempt to limit the number of teachers who receive places in the institution. Because they have had a very good response in previous years from the teaching profession, a limit of 30% of total places has been set for teachers. There are other special groups in the student body including people in prisons, the blind, the deaf, spastics and persons serving in the merchant navy. The experimental programmes for the groups just mentioned are very limited in terms of total number of places allocated.

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* there are a large number who have the qualifications to enter university but fewer than 50% with the entry qualifications find places in the regular British university system

The categories of occupation of applicants comes from the system derived by the Government of the United Kingdom for categorizing the population's occupational groups. These groups are somewhat misleading in socio-economic terms, and it is difficult to use these figures to develop certain conclusions about the socio-economic background of students. However it does become clear when talking with members of the staff of the Open University that the "working" class, and I use the term in the British sense, is not well represented in the student body. Because of British society's attitude toward higher education and the fact that some of the staff of the Open University perceive the University from a traditional perspective, the students which it seeks to attract and the means by which it advertises its programme to prospective students does not appeal broadly to this very large segment of the British population.

A student council has recently been formed including regional representatives to promote a sense of community among the students. A newspaper which until now has been produced by the staff of the Department of Staff and Student Affairs will be used by the council. Television and radio times have been set aside for extra-curricular activities to develop the sense of "community".

It should be noted that a number of student societies have arisen based mainly on the areas of study. One of the most interesting is the society which has developed for the promotion of the study of medicine in the Open University. Although this is not a part of future plans, this group is an internal lobby for students who wish the inclusion of a medical programme in the institution.

FACULTY:

On reflection, the academic staff

There is a central core which is mainly responsible for the production of programmes supported be a large part-time staff of tutors and counsellors and full-time senior tutors and counsellors. The faculty at the central location of the University is supplemented for course development by well-known faculty of other Universities as well as other members of the staff of regional offices.

The ratio of academic staff to students is low by other university standards. In 1972 thefull-time academic staff included 175 of the central office, 95 in the regional offices for a total of 270. There were 4,430 part-time academic students including 2,947 tutors and 1,483 counsellors.

The role of the counsellors in the system is still unclear. Is it academic or non-academic? Some have pursued the academic role and become involved in the academic content of the student programme. Others have assumed a more traditional personal counselling role. The academic role has been played only in the first year of study. Tutors have jealously guarded the right to perform this function in the advanced years of study. There is still some question about the future role of the counsellor within the programmes of study for students.

The small staff has meant heavy loads for all members and little opportunity for leaves. The addition of outside academics has helped in course development but much of the work depends upon the central staff. There has been limited impact on the curriculum by students. It is hoped that this will increase.

The most notable impact of students on curriculum has been in the area of half courses which were presented last year by the Open University. It was discovered that these courses involved virtually as much work as a full course. Students protested about this, and alterations have been made in the curriculum.

The attempts to promote interdisciplinary courses and the problems of course development have complicated the life of the academic in the Open University. The problem of dividing a course up into several parts and having individual academics responsible for each unit has meant that course development occurs on a peace meal basis, and good co-ordination has not always been achieved. Because many courses are inter-disciplinary in nature, the assumptions which academics make about the background of students and the information which has been provided to students in other units is not always correct. Tutors do provide opportunities for group meetings or for sessions with individual students who require assistance. Group meetings occur with a frequency related to the attitude of the individual tutor and the needs of the group of students with which he is working.

UNDERGRADUATE CURRICULUM:

I have already referred to some of the problems of course development in the section on the Faculty. Another major difficulty was and is the shortness of time available in course development for the problem of intergrating traditional academic approaches with the media and correspondence. The amount of time required to produce programmes was seriously underestimated in the initial stages of development of the institution.

This process of course development is well described in two papers by Professor Brian Lewis who is director of the Institute of Educational Technology of the Open University.* He indicates that one of the major problems is in the designing of individual units of which courses would be comprised.

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* Brian N. Lewis: Course Production at the Open University I: Some Basic Problems

______________: Course Production at the Open University II: Activities and Activity Networks

Other problems include lack of experience in working with correspondence lessons which are, in my view, the backbone of the programme and lack of understanding of the use of media within the educational setting on a mass student body basis.

As I here already indicated, the undergraduate programmes have taken the bulk of time and money available for course development. Postgraduate and post-experience courses will be referred to in a later session.

Supplementary materials for courses have been slow to develop bacause of the lack of funds. I was told that it would not be possible to provide audio tapes to students this coming year because funds would simply not be available to develop this on a large scale. However, I note on their 1973 budget that they have funds allocated for this.

POSTGRADUATE AND POST-EXPERIENCE CURRICULA:

There has been only a limited involvement in the areas of postgraduate and what they refer to as post-experience courses. Post-experience of course refers to further or continuing education of courses.

Postgraduate courses as present are being pursued in a very traditional pattern because the lack of funds to develop programmes. There are a few postgraduate students working with the academic staff at the central office of the Open University. It is hoped that more students will be able to become involved in less traditional programmes in the future through the use of resources in local communities. The staff will assess the adequacy of resources in any applicant's area before giving approval to his graduate programme.

There are currently six post-experience courses being offered through the Open University. These courses are in mathematics, science and social science areas. It is hoped that when funds are available extensive development of these programmes will take place.

B.B.C:

In 1971 the B.B.C. staff included 59 producers, 68 administrators, 165 support staff and 70 secretarial or clerical staff for a total of 310. One of the mistakes made at the beginning of the university by the B.B.C. was to hire producers who had academic background but little technical experience. The result of this was that producers were able to talk with academics but not able to do a very good job with the technical side of production of programmes.

Some programmes have made the media an intergrated part of the programme. Others feel that it is a peripheral thing - a form of "icing on the cake". A clear policy has not been established on this matter at the present time.

ROLE OF USE OF REGIONAL CENTRES:

This particular aspect of the Open University has not really been fully evaluated. It is estimated that 50% of the students make use of regional centres. Those who make use of the centres are those who need assistance in their programmes or those who have a feeling of need to be involved in the "community". Those who do not use the centres are those who are doing well academically or those who live in isolated regions of the country.

The regional centres are used for tutorial purposes and also for group meetings. They may also be used for study purposes because they contain collections of materials from courses.

SUMMER SEMINARS:

The in-house sessions are held each year during the summer. The opportunity for students to gather together and meet with the academic staff and become involved in intensive study sessions has proved to be a most valuable part of the curriculum. Seminars vary in length from one to three weeks.

FINANCES:

The information which I have is quite unofficial. It is based on approximations worked out by members of the staff on the projected budget for 1973. The suggestion is that this might be in the neighbourhood of £ 10 million for recurrent costs. Expenditures will include: direct student costs, including tuition and counselling - 12%; printing of material - 5%; home study kits - 5%; postage - 2%; audio visual aids - less than 1%; salaries - 20%; B.B.C. - 20%; regional offices - 17%; administration 14%; Institution of Education Technology - 1½%; Department of Staff and Student Affairs - less than 1%.

The fees provide 10% of this total. Government grants make up the remainder of the funds. Student fees vary from £15 - £25 per course with £ 30 - £35 added per week of summer school attendance. The cost of text books in any given course is limited to £14.

This indicates to me that the cost for a course to an individual student could be quite high - perhaps even prohibitive to certain groups in British society. It is interesting to note that the total budget for salaries is 50% higher than the total cost of administration and represents 1/5 of the total recurrent costs of the institution. Most universities in Britain use one half of recurrent budget to pay salaries.

CONCLUSIONS:

It is difficult to say very much about the institution with limited information. It must be obvious that the expectations of its founders have not in fact been realized and that pressures from external and internal forces have moved it away from serving the communities which it was originally intended to serve. One may or may not feel that original expectations were realistic. Yet there really has not been an attempt in Britain to open the university system to certain groups in society.

We in other countries must of course be careful about the conclusions which we draw concerning the adaptability of these programmes to other settings. It is my suggestion that we have much to learn in the Open University from both its successes and failures. They have been successful in the attempt to establish a national institution using both media and correspondence as well as residential and study sessions in an integrated learning programme. We should therefore attempt to study what they have done for it will assist us in our attempts to develop media assisted learning activities for a wide population base.

Training as an Unobtrusive Measure

in

Adult Education Research

Joan W. Wright
Cornell University
Adult Education Research Conference
Montreal, Quebec
April, 1973

TRAINING AS AN UNOBTRUSIVE MEASURE IN ADULT EDUCATION RESEARCH

Adult education researchers share the concern of other social scientists for finding non-reactive measures--those which may reduce error due to reactive measurement effects and to single measurement of the same phenomenon. The use of training as a means to gain access to data relatively uncontaminated by such error as interviewer effect and awareness of being tested may be especially appropriate for the adult educator/researcher who has a strong practitioner orientation. The opportunity to combine practice skills with a research focus may not only be highly appealing, but may provide a legitimate context in which to observe otherwise inaccessible behaviors.

Webb, Campbell, Schwartz, and Sechrest[1] point to the use of "outcroppings" as unobtrusive measures. This paper focuses on the outcroppings--albeit contrived outcroppings--available in a particular action research project through training conducted by the project staff. The project involved a university, community college, and more than thirty community agencies working together to develop and evaluate a two-year degree program for upgrading paraprofessionals employed in human services.[2]

In order to carry out this overall objective a number of research purposes were involved, including:

- the identification of needs for training of agencies, administrators, supervisors of paraprofessionals, and paraprofessionals, and the interrelationships of these needs;

- a description of the context in which these needs occurred, including the rewards available to paraprofessional and professional staff and the contingencies under which rewards were made available;

- the identification of payoffs and tradeoffs involved in inter-organizational relationships, and the commitment of participating organizations to the overall consortium effort; and

- the identification of value standards for evaluating paraprofessional performance.

A major effort of the project was an intensive interview survey of agency and school administrators, supervising professionals, and paraprofessionals. Survey methods, however, are liable to the reactive effects mentioned above. An additional means of getting at the information needed was provided through a variety of training events.

Before describing the particular uses of training as an unobtrusive measure, two things are worthy of note. One was the fact that the project staff included more than one person trained in adult education skills. The use of a team of trainers permitted multiple observations of each training event and therefore a check on observer reliability not available in single-observer analysis. Second, each training event was occasioned by a program development aspect of the total project. It would hardly have been 'unobtrusive' to have introduced training simply as a means of gaining multiple data inputs. The treatment aspect of each training event, while not claimed to be non-contaminating, was believed by the investigators to have been minimally reactive for the research purpose described because of the other legitimate objectives the training was designed to meet.

Contributions of training to the research

A. One of the concerns of the project staff was the extent to which the various schools and agencies employing paras were committed to the consortium effort to provide educational development for their paraprofessional staffs. While a survey of the employers[3] revealed that paraprofessional staffing was on the increase and agencies recognized a need for in-service training, the readiness to commit resources to the development process had not been tested. As an added measure of agency willingness to enter into inter-organizational relationships regarding paraprofessionals, records were kept of attendance by agency representatives at several events. One set of these events was a series of programs on aide functions and employment sponsored by a section of the country's Social Planning Council, to which all public and private non-profit human service organizations were invited. A second set of events was sponsored by the project staff specifically to feed back information from the surveys and get a 'sense of the meeting' regarding the development process. Neither set of events had a high mand quality; both were held during the daytime so that agencies had to release the time of their staff to attend. While the content of these meetings was important to the project's program objectives, the representation pattern and consistency of attendance was an observable inter-organizational behavior that supplemented the expressions of interest gathered in the earlier interviews with individual agencies as evidence of commitment to the cooperative effort.

B. During the latter part of the first year, it became important to try some of the notions regarding the generic nature of human service training[4] with a cross-section of paraprofessionals from each of the counties, involved. For this purpose a pilot series of training sessions was designed in each county. The sessions were held during the day, with announcements mailed to all school and agenagency direcotrs. Participation in the pilot sessions, it was believed, would be a function of the following factors:

- the interest of individual paraprofessionals in engaging in this form of training;
- the motivational quality of the training offered, particularly as it affected continuing participation;
- the willingness of administrators to bring this opportunity to the attention of their paraprofessional staff;
- the willingness of schools and agencies to release paraprofessionals from work to attend the sessions.

The two latter factors were the basis for using attendance of paras at project-sponsored training events as a supplemental indicator of organizational commitment to paraprofessional development.

C. One of the problems mentioned by aides and professionals in the interview survey was the quality of supervision provided for paras. The basis for supervision problems was not entirely clear; it was suggested that lack of supervisory training in the professionals' background, apprehension regarding the encroachment of paras on professional territory, and incongruency of delegated responsibility with the norm of professional autonomy might be contributing factors. In any case, the administrative level had approved the development of training for supervisors, and the supervisory level had paid lip-service to the desirability of such training.

Two series of training events centering on the acquisition of supervisory skills were held. One was designed for selected staff within one school district, to check out the prevalence and nature of supervisory problems within the school setting. Since attendance was more or less compulsory, this was not considered to be a non-reactive measure. (The content of the workshops, developed from the participants' inputs, was also recognized to be subject to certain mand qualities of the situation, although it sensitized both participants and project staff to the variety of supervisor-aide relationships within the school.)

The second series was open to professionals in all schools and agencies in the two counties. Each of the five workshops held was a day-long event, requiring participants to make appropriate advance arrangements for their absence from work. While administrators might have withheld approval of participation in any workshop, there was no evidence that any agency or school required any of its professional staff to attend nor offered 'Brownie points' for voluntary attendance. Therefore, even though the events were contrived in response to a perceived need, participation was voluntary and could be used, it was believed, as an unobtrusive measure of supervisor commitment to continued personal growth and to responsibility for facilitating supervisee role acquisition.

D. Each of the workshops was designed with particular objectives in mind, most of which were explicitly related to the development of supervisory skills.[5] During a part of one session the participants were requested to serve as consultants to the project staff. An exercise in which supervisors identified factors that hindered or facilitated their own role acquisition and performance and then compared their lists with items previously identified by paraprofessionals led to recognition and discussion of the "fully-functioning team member." At this point the participants were asked to describe the characteristics of such a person if employed as a para in their own organizations. Through a pooling process the responses were collected, assessed, revised, and finally accepted as a consensus definition of the aide behaviors that supervising professionals wanted the community college to help them develop.

This information, developed and validated through a consensual process involving representatives from all of the types of agencies employing paraprofessionals in the area, became the content of a scale for employers to rate supervisee role performance. Following field-testing and reliability checks, the resulting rating scale (attached) was made available to employers and was used in project evaluation. Claims for the validity of the instrument were based on the nature of the process through which the content was developed.

E. The nature of supervisor-supervisee interaction between professionals and paraprofessionals has been discussed in much of the New Careers literature.[6] It was unclear to the project staff to what extent that material, a great deal of which examines new roles in urban settings, was applicable to the upstate non-urban community in which aide roles took several, often traditional, forms. Without biasing participants in the training workshops by reviewing the insights of 'experts' in the field, the sessions were designed to permit the participants' own expertise, gained through experience, to surface. By various forms of role play--in dyad, triad, small group, and large group settings--with a variety of means for recording the salient features of the interaction as well as the interpretations and alternative role analyses of non-role playing participants in the workshops, the researcher/trainers gained a great deal of information about the relationship of professional to paraprofessional. Much of this was conceptualized during the workshop by the participants, much like Kozoll's technique in training executive secretaries.[7] This use of training to conceptualize an area in which there is a limited body of knowledge and little if any previous research was probably the most exciting aspect of the project. (For a sample of material produced by a workshop, see report to participants attached.) Obviously it does not fit the paradigm of non-reactive measure advocated in the previously described uses of training. It does, however, provide a legitimate context within which the researcher/trainer can apprehend otherwise inaccessible behaviors. These data serve to supplement information gained from a review of literature, interviews with key informants, and/or on-site observations. The latter two are particularly vulnerable to interviewer/observer effect. In the training setting the trainer role may mask the research role. In addition, the participants may be more influenced by the intrinsic interest of the content they are generating and by the interest of their co-participants than by an observer effect generated by the trainer.

Conclusion

Based on experience with this project, the use of training as a means of gathering data that are relatively uncontaminated by observation and that can serve as part of a multiple measure research strategy would appear to be efficacious. It is appropriate when the nature of the research project calls for or permits one or more forms of training as a program component--probably, therefore, more suitable in action research projects. It utilizes skills which are frequently a part of the adult education researcher's repertoire; its reliability is enhanced by the presence of two or more trainers working as a team. Perhaps the greatest significance of this experince to the project staff involved was the recognition of the tremendous potential available in an activity which would otherwise have been regarded as a necessary but onerous responsibility.

References:

[1] Webb, E.J. *et al.*, UNOBTRUSIVE MEASURES: NON-REACTIVE RESEARCH IN THE SOCIAL SCIENCES. Chicago: Rand McNally, 1966.

[2] For further description of the project, see Wright, J., FINAL REPORT: HUMAN SERVICE TRAINING PROJECT. Cornell University, mimeo, 1973.

[3] Wright, J., "Employment of Paraprofessionals in Human Services in Cortland and Tompkins Counties." Tompkins-Cortland Community College, mimeo, 1970.

[4] National Institute for New Careers, GENERIC ISSUES IN THE HUMAN SERVICES. Washington, D.C.: University Research Corporation, 1969.

[5] Detailed reports of each session appear in Summative Evaluations of Workshops I-V, Human Service Training Project, New York State College of Human Ecology. Mimeo, 1971-72.

[6] See, for example, Klopf, G.G. Bowman, and A. Joy, A LEARNING TEAM:: TEACHER AND AUXILIARY. New York: Bank Street College of Education, 1968; Pearl, A., and F. Riessman, NEW CAREERS FOR THE POOR: THE NON-PROFESSIONALS IN HUMAN SERVICE. New York: Free Press, 1965; and Kaslow, F., and associates, ISSUES IN HUMAN SERVICES. San Francisco: Jossey-Bass, 1972.

[7] Kozoll, C.E., "Keep Your Mouth Shut and Your Ears Open: Adult Educators and the Training of Executive Secretaries." *Adult Leadership*, Vol. 21, 8, Feb. 73, 256 ff.

Attachments:
1) Rating Sheet for Evaluating Aide Performance
2) Report to pariticipants: Workshop III

NEW YORK STATE COLLEGE OF HUMAN ECOLOGY
A Statutory College of the State University
CORNELL UNIVERSITY
Ithaca, New York
Department of Community Service Education

To : Participants, "Workshop III: Roles and Role Expectations," Dryden, N.Y., January 20, 1972; and other interested persons

From: Joan Wright, Human Service Training Project

Re : Summary of Workshop III

We are enclosing: 1) a copy of the schedule for the workshop, 2) a summary of that day's activities, and 3) a roster of participants. Our "summary" is just a chance for us to note some of the main points we feel emerged from a full day of activity and discussion; you may want to amend these by adding some points of your own.

RATIONALE FOR THE WORKSHOP

Since it began two years ago, the Human Service Training Project has included among its component tasks that of providing continuing education for the professionals who supervise paraprofessionals in various human service agencies in Cortland and Tompkins Counties. It is felt that supervisors should be aware of all aspects of the Community College's own efforts to provide training for aides, and should have maximum opportunity to participate in the design, development, implementation, and evaluation of the emerging Human Service Program at Tompkins-Cortland Community College.

Continuing education for professionals is based upon an assumption of professional dominance in the human services. In most agencies professionals determine policy regarding hiring, training, and career development; likewise they interpret, translate, and pass along such policies to the aides, setting the tone in the day to day work environment.

In particular supervisors play a big part in defining the roles of aides, by developing job descriptions, assigning tasks, and carrying out evaluation. And as they define aide roles, so also are their own roles altered and re-defined at the same time. The recent workshop was an effort to explore the complementarity of this role definition process by bringing together professionals and paraprofessionals from a number of organizations.

SUMMARY OF THE WORKSHOP

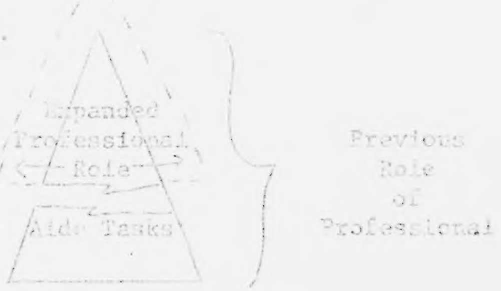
I. Duties: What Can Supervisors Expect of Aides?

The morning session was devoted to those aspects of the aide-supervisor relationship in which the supervisor initiates activities that shape the aide role. HSTP staff presented the notion of "duties and rights" as a backdrop for discussion. Three basic models for utilizing aides were presented, and it was suggested that each one serves to define aide duties in a different way. The first portrays aides performing low level tasks to free the professional to carry out tasks for which he has been trained. Its goal is to increase the amount of service, but not necessarily to change content of that service.

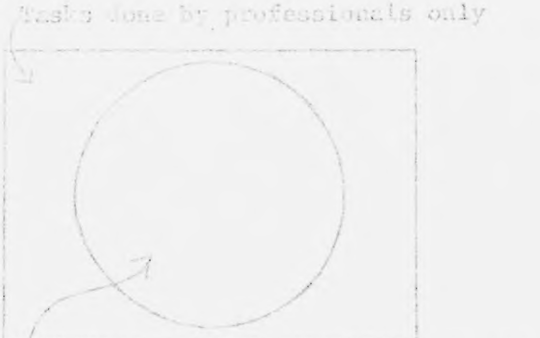
The second model portrays the aide as a coworker who is able to perform some of the tasks previously within the professional domain, due to the presence of a trained supervisor. Again the goal is more of the same service. The third model portrays the aide performing tasks new to the organization but within its overall mission. Here the goal is new service.

The process of defining aide duties was shown to involve 1) describing a problem, 2) identifying an agency function to meet that problem, 3) establishing a position to fulfill that function, 4) describing the tasks to be performed by the person in that position, and 5) recruiting a person for the job. Original job definitions were seen as projections: it was stated that they needed updating so that evaluation would be on the basis of relating aide duties to functions rather than aide duties to job descriptions. "Supervisor distance" was seen as critical to such evaluation.

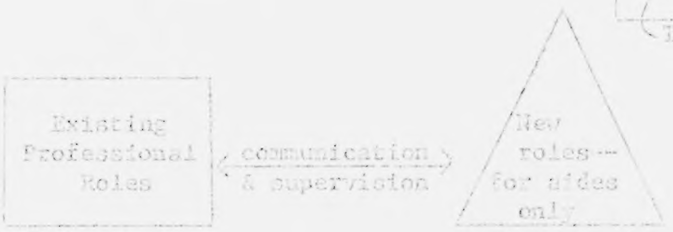
I.



II.


Tasks done by professionals only
Tasks shared by professionals and
aides

III.



Working in small groups participants focused on aide duties by sharing the job descriptions/task observations they had brought. Several generalizations seemed to emerge: Most model 1 aides have no formal job descriptions. Many also are supervised by several persons. Aides in these positions have high autonomy in that tasks are "given over" to them. This high autonomy is maintained in spite of very close propinquity i.e., it is possible to be very close to the aide all day and not really know what she is doing. This model exhibits flexibility in the aide role, but can also result in misunderstandings. Aide tasks are routinized; supervisor attention is elsewhere.

Few examples of model 2 seemed represented among participants. There seems little sharing of tasks within the professional domain, except when aide slots are filled by pre-professionals (college students, etc.) or by professionals operating at a level lower than their preparation would [illegible]. One exception is in the Head Start program, where teachers and aides share a wide range of tasks.

Model 3 was seen as linked to problems of new program development. Job descriptions are shaped to fit national guidelines (which may or may not fit locally) in order to secure funding. Aide duties reflect their own definition of the functions they are to perform; updated job descriptions emerge over time.

In general there seemed to be a blurring of all 3 models. Job descriptions seemed to be of help in assisting aides to carve out roles for themselves. Distance is a real problem for the supervisor. He has a difficult time arranging systematic observation and evaluation of aides. And attempts to close distance can create other difficulties (involvement in aides' personal problems, etc.). There seems to be some ambiguity as to whether it is important to be able to perform all tasks the aide must perform, or whether it is more important to function as a skilled manager of human resources. In the latter case it was generally felt that the supervisor runs the risk of losing touch with problems "out in the field."

One group discussed present movement toward organization of aides. Most felt this will come about, and will have an impact on the role and duties of aides throughout the human services.

II. Rights: What Can Aides Expect from Supervisors?

Remarks by HSTP staff in the afternoon session highlighted the concept of "reciprocity." They emphasized that the elaboration of aide duties implies that aides play an important part in the operation of the organizations that employ them. And this fact establishes that the presence of aides makes legitimate demands on supervisors. HSTP findings regarding what aides expect of their supervisors has been very general. Their findings have confirmed however that the supervisor is probably the most important person in the work life of the aide. The afternoon's session then was to push toward a better understanding of what aides expect. Aides were included as participants to assist in this effort.

One group centered its discussion on supervisor behaviors. It offered arguments for and against close personal relationships with aides but consensus seemed to be reached on the issue of "revealing one's self" to aides: until the aide has knowledge of her supervisor as a person (vulnerabilities and all) she is liable to be untrusting or intimidated. One aide said she was unable to perform effectively with her supervisor until she saw the supervisor as "a human being, instead of someone in a private office.")

Achieving these ends requires explicit efforts toward operationalization within an organization. These efforts include:

1. setting aside special times for orienting aides to the goals of the organization, and for re-assessing the goals of the organization in the light of aides' observations;

2. stating roles in writing whenever possible, and updating these documents regularly;

3. setting aside regular blocks of time for joint planning with aides; and

4. going into the field with aides periodically.

It seemed apparent from the discussion that [illegible] paraprofessionals to take an active part in career development. Participants felt that this put aide and supervisor alike up against the problems of credentialing. Both agreed that credentialing itself should not be a basis for higher pay, but that career advancement should be linked to increasing responsibility of aides. (Aides were quick to point out that this is not the way that professionals' careers are developed - that in fact credentialing, longevity, etc. play a major part in pay raises for professionals.)

Some participants noted the case of receiving participating aides through funds from other organizations. These persons have talents to [illegible] particularly in the case of university students in their field experience — [illegible] the organization must adjust to them rather than the other way around. Volunteer organizations often face the same kind of situation. In their cases they receive "personnel" more often than they create "positions."

Behind the credentialing question lay the immediate question of why take courses at TC3. It was agreed that involvement in education raises expectations all around. Supervisors expect better performance, and aides expect more responsibility/higher pay. The "little knowledge is a dangerous thing" syndrome seems to fluctuate with the labor market. Also, the surplus of professionals can be an increased threat to paraprofessionals when "worth" becomes equated with "education."

It was felt that because aide's roles are only in the process of developing, their decision-making responsibility places large responsibilities on their supervisors. That is, aides are confronted by situations calling for decision when no precedent is at hand. Therefore they need to be backed up in their decisions. Moreover, they could help in analyzing decidions for generalizability, and they need assistance in anticipating future decision situations.

Almost all of the "rights" of aides could be summed up in the following three attributes of an effective supervisor:

1. accessibility to supervisees
2. capability for listening
3. genuine appreciation for the work others do.

And it seemed agreed that these attributes only emerge from persistent efforts in the part of aide and supervisor alike to make it happen. The present workshop raised further issues for consideration. Future sessions might attack such issues as: 1) how to break down generalizations about the supervisory function, 2) how to explore the nature of trust in supervisory interaction, and 3) how to elaborate a method for providing continually updated job descriptions, so that aides have a relevant yardstick for self-evaluation.

HUMAN SERVICE TRAINING PROJECT

Tompkins-Cortland Community College New York State College of Human Ecology

RATING SCALE FOR EVALUATING AN AIDE

Name of aide to be rated:______________________________ Aide's title:________________________

Name of rating-supervisor:_____________________________ Supervisor's title:____________________

Date:________________________ Employing Organization_______________________________________

Directions for rating-supervisor:

1. Fill in information at top of page.
2. Read the description across each row.
3. Choose the number from 5 to 1 that corresponds most closely to the behavior of the aide.
4. Write in that number in the box at the end of the row.
5. If you are unable to rate an aide in a particular item, due to insufficient opportunity to observe that behavior, write in a 0 in the box at the front of the row.

New York State College of Human Ecology
A Statutory College of the State University
Cornell University, Ithaca, New York

RATING SCALE

unable to evaluate 0 5	4 3	2 1	Rating (5 - 1)
1. Has a thorough understanding of the goals of the organization.	Has some understanding of the goals of the organization.	Has very little understanding of the goals of the organization.	
2. Almost always behaves in accordance with the goals of the organization.	Sometimes does, and sometimes does not, behave in accordance with the goals of the organization.	Rarely behaves in accordance with the goals of the organization.	
3. Has a thorough understanding of the ethical standards of the organization (confidentiality, trustworthiness, etc.)	Has some understanding of the ethical standards of the organization.	Has very little understanding of the ethical standards of the organization.	
4. Almost always complies with the ethical standards of the organization.	Sometimes does, and sometimes does not, comply with the ethical standards of the organization.	Rarely complies with the ethical standards of the organization.	
5. Almost always completes tasks on time.	Sometimes does, and sometimes does not, complete tasks on time.	Rarely completes tasks on time.	
6. Rarely needs prodding by supervisor.	Sometimes does, and sometimes does not, need prodding by supervisor.	Almost always needs prodding by supervisor.	
7. Rarely has conflicts with fellow aides.	Sometimes has conflicts with fellow aides.	Almost always has conflicts with fellow aides.	
8. Freely communicates useful information to supervisor.	Communicates useful information to supervisor when requested.	Rarely communicates useful information to supervisor.	

0 5	4 3	2 1	Rating (5 - 1)
9. Rarely defensive when receiving feedback from supervisor.	Sometimes defensive when receiving feedback from supervisor.	Almost always defensive when receiving feedback from supervisor.	
10. Almost always functions in accordance with her role in the organization.	Sometimes does, and sometimes does not, function in accordance with her role in the organization.	Rarely functions in accordance with her role in the organization.	
11. Extremely effective in relating to persons of different cultures and life styles.	Somewhat effective in relating to persons of different cultures and life styles.	Extremely ineffective in relating to persons of different cultures and life styles.	
12. Generally able to assess needs of clients.	Sometimes able, sometimes unable to assess needs of clients.	Generally unable to assess needs of clients.	
13. Almost always able to motivate clients to change.	Sometimes able, sometimes unable to motivate clients to change.	Generally unable to motivate clients to change.	
14. Continually makes efforts to improve skills.	Sometimes makes efforts to improve skills.	Rarely makes efforts to improve skills.	
15. Shows a great deal of interest in advancing her career.	Shows some interest in advancing her career.	Shows very little interest in advancing her career.	
16. Almost always able to evaluate self realistically and critically.	Sometimes able to evaluate self realistically and critically.	Rarely able to evaluate self realistically and critically.	
17. Shows a great deal of confidence and self-esteem.	Shows some confidence and self-esteem.	Shows very little confidence and and self-esteem.	
18. Adjusts to changes in organizational routine (such as pressures for deadlines, etc.) with very little difficulty.	Adjusts to changes in organizational routine with some difficulty.	Adjusts to changes in organizational routine with a great deal of difficulty.	

UTILIZING OHIO 4-H LEADERS AS SUBJECTS FOR EXPERIMENTAL RESEARCH*

presented by

Richard L. Young

Assistant Professor

The Ohio State University

at the

Adult Education Research Conference

Montreal, Canada

April 5, 1973

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*Based on the dissertation, "The Effectiveness of a Correspondence Course for New 4-H Leaders" by the presenter.

CONTROLLING THREATS TO VALIDITY

THREATS	CONTROL TECHNIQUES
"Distrust" of Randomization	
External	Residence of leaders in sample counties compared with residence of members in same counties. No significant difference. Residence of leaders in sample counties compared with residence of all Ohio 4-H members. Urban leaders under-represented in sample. No county with a large city fell in sample, but only 14 of Ohio's 88 counties have large cities.
Internal	Demographic data on experimental and control group respondents were compared. No significant differences.
Internal Validity Threats	
History	Design controlled. Agents were asked to conduct leader training program as they ordinarily would. Extent to which agents interacted with experimental group was checked. Very little interaction.
Maturation	Design controlled. Only four months from mailing of first lesson to return of final questionnaire.
Testing	Design controlled. No pretest.
Instrumentation	Design controlled. Rate of return by experimental and control groups compared. No significant difference. (Development of instruments described below.)
Regression	Design controlled.
Selection	Design controlled. See above under "Distrust" of Randomization, Internal.

THREATS	CONTROL TECHNIQUES
Mortality	Design controlled. A telephone interview survey of a sub-sample of 50 subjects compared experimental and control groups on their intentions to continue or not continue as a 4-H leader. No significant difference.
Interaction of Selection and Maturation, etc.	Design controlled.
External Validity Threats	
Interaction of Testing and Treatment	Design controlled. A pre-test would have been an "unusual" event for adult lay leaders which likely would have sensitized all subjects to 4-H leader training activities, whether the correspondence course or other training.
Interaction of Selection and Treatment	None of the randomly selected counties refused to cooperate. All leaders volunteered to serve with the expectation that they would be offered training opportunities. Check on representativeness of sample. See above under "Distrust" of Randomization. Demographic data obtained on sub-sample of non-respondents. No significant differences between them and respondents.
Reactive Arrangements (Hawthorne Effect)	Agents were asked not to change their regular leader training program, and to avoid making leaders aware that research was underway or that some leaders were getting something that others weren't. Correspondence course lessons were sent from the county Extension office under cover of a letter from the county agent. Quiz sheets were returned to county agent. Married couples who were both new leaders, and new leaders in the same club, were assigned as "sampling units." A sampling unit was assigned either to the experimental or to the control group

THREATS	CONTROL TECHNIQUES
	Demographic data were obtained in the last section of the questionnaire. Agents were interviewed after questionnaires were sent to leaders. They felt that leaders were unaware that they were involved in research. Subjects in the telephoned sub-sample were asked if they knew they were involved in research. None of 44 respondents knew.
Multiple Treatment Interference	Leaders were not subjected to multiple treatments.

OTHER TECHNIQUES

Development of Knowledge Test

1. Fifty (ten on each of the five lessons) multiple choice questions were prepared by researcher.

2. Content validity was checked by the writer of the lessons and the state 4-H staff.

3. Test sent to 120 leaders in non-sample counties.

4. Item analysis run on results returned by 49 leaders.

5. Twenty "best" questions (four from each lesson) were chosen for the final instrument.

Development of Forced-Choice Practices Instrument

1. Researcher prepared a list of 32 "desirable 4-H club practices".

2 State 4-H staff and area 4-H agents judged the extent to which each practice was carried out in, first, an "ideal" 4-H club, and second, in an "ineffective" 4-H club.

3. From responses an Applicability Index and a Discrimination Index were calculated.

4. Ten pairs of practices were prepared; for each pair the Applicability Indexes were similar, but the Discrimination Indexes were dissimilar.

5. A point was scored each time a respondent chose the item in each pair which was associated more highly with an ideal 4-H club.

Pretest of Questionnaire

The questionnaire was pretested in a personal visit with a small number of non-sample new 4-H leaders.

Follow-up Telephone Interviews

1. Ten subjects from each of the ten counties were randomly selected. Telephone numbers were obtained for them. Calls were made until five completed interviews were obtained from each county.

2. Purposes of telephone interviews

   a. Obtain demographic data on some non respondents.

   b. Obtain information on evaluation of the correspondence course.

   c. Determine whether respondents felt they were "taking a test" while completing questionnaire.

   d. Determine whether (and where) respondents sought help in answering questions in knowledge portion of the questionnaire.

   e. Determine whether leaders utilized printed 4-H resource materials.

3. Evening station-to-station calls were dialed directly. Seventy charged calls were necessary to complete fifty interviews. No one refused to be interviewed.

Follow-up Agent Interviews

1. One person from each county Extension office was interviewed. Criterion on who interviewed being that he (she) had been intimately involved in administering correspondence course. Interviews were in person or by telephone.

2. Purposes

   a. Determine whether Hawthorne Effect had been controlled.

   b. Assess extent of interaction between "students" and "instructor" during correspondence course.

   c. Evaluative information regarding their use of the correspondence course.

Order of Statistical Analysis

1. Descriptive statistics summarized first.

2. Associational hypotheses tested next.

    a. Dependent variables were (1) knowledge test scores and (2) desirable practices scores.

    b. Independent variables were, for the most part, demographic data on leaders.

Significant relationships were to be analyzed further as experimental hypotheses were discussed. Non-significant relationships were to be ruled out as affecting experimental findings.

3. Experimental hypotheses analyzed thirdly.

4. Finally, other "unanticipated and interesting" findings were explored. For example, did correspondence course participants who returned all five quiz sheets score higher on the knowledge test than those who returned fewer or none? (Yes, but not significantly.)

THE EFFECTIVENESS OF A CORRESPONDENCE COURSE FOR NEW 4-H LEADERS

BY

Richard E. Young

One of the major concerns of Cooperative Extension Service faculty who work with the 4-H program is to arrange appropriate educational experiences for new 4-H leaders. When a series of five correspondence course lessons for new 4-H leaders was developed, printed, and distributed in Ohio in 1970, an opportunity was available to test its effectiveness.

This study had three major objectives. First, to evaluate whether the correspondence course was effective in helping new leaders gain knowledge about 4-H and/or in encouraging the performance of desirable practices in the new leaders' 4-H clubs. Second, to explore the relationships which may have existed between 4-H leaders' knowledge of 4-H and the practices in their 4-H clubs, and a number of characteristics of the new leaders. And, third, to describe the new 4-H leaders in Ohio.

A random sample of ten of Ohio's eighty-eight counties was selected for participation in the study. All new leaders recruited in these counties between July 1, 1969 and May 1, 1970 were included in the sample. Each of these 360 new leaders was randomly assigned to either an experimental group which received the correspondence course lessons or to a control group which did not.

Data were obtained through a mailed questionnaire from 219 of the new leaders. The first section of the questionnaire was a multiple choice twenty-item knowledge test relating to the correspondence course lessons. The second section was designed to measure the extent to which desirable practices were carried out in the 4-H leaders' clubs. The third questionnaire section asked for demographic data about the leaders.

A sub-sample of fifty of the new leaders was telephoned in an effort to further evaluate the correspondence course and to get information from leaders who did not return questionnaires.

Evidence from the study's findings showed the correspondence course to be effective in helping leaders to know about 4-H; participants in the course scored higher than non-participants. On the other hand, there was no difference between the experimental and control groups in the extent to which desirable club practices were performed.

New 4-H leaders can be expected to read correspondence course lessons and to evaluate them favorably. With no instructions otherwise, Extension faculty initiated only minimal interaction between themselves and correspondence course participants. Both lay leaders and Extension faculty appreciated the convenience and flexibility of the correspondence course method of teaching.

Female new 4-H leaders scored higher on the knowledge test than did males. No significant difference between sexes was found regarding 4-H club practices.

None of the leader characteristics was found to be related significantly either to knowledge or pratice scores. The leader characteristics included educational attainment, amount of contact with Extension, former 4-H membership, family income, age, number of other youth groups worked with, and place of residence.

The new 4-H club leaders were resourceful in seeking help as they completed the knowledge test. Printed 4-H publications were their most fruitful resources.